



# SOURIAU

## 853 Series

EN2997/ESC Qualified - Fire Wall Connectors





# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors



### Contents

#### Overview

|                                          |    |
|------------------------------------------|----|
| • Applications .....                     | 06 |
| • Benefits .....                         | 06 |
| • Product overview .....                 | 07 |
| • Contact layouts 8533-8535 Series ..... | 08 |
| • Contact layouts 8534-8536 Series ..... | 10 |
| • Contact layouts (matrix) .....         | 11 |

#### Series

|                                           |    |
|-------------------------------------------|----|
| • 8533 Standard Version - EN2997 / ESC10: |    |
| Technical features .....                  | 14 |
| Ordering information .....                | 15 |
| Dimensions .....                          | 17 |
| Orientations .....                        | 19 |
| Connector weights .....                   | 19 |
| Backshells .....                          | 20 |
| • 8533 Hermetic Version - EN2997 / ESC10: |    |
| Technical features .....                  | 24 |
| Ordering information .....                | 25 |
| Dimensions .....                          | 26 |
| Orientations .....                        | 28 |
| Connector weights .....                   | 28 |
| Contact variations .....                  | 29 |
| • 8533 Power & Quadrax:                   |    |
| Technical features .....                  | 30 |
| Ordering information .....                | 31 |
| Backshells .....                          | 32 |
| Spacers .....                             | 33 |

|                                         |    |
|-----------------------------------------|----|
| • 8534 Series - ESC11:                  |    |
| Technical features .....                | 34 |
| Ordering information .....              | 35 |
| Dimensions .....                        | 36 |
| Orientations .....                      | 37 |
| Connector weights .....                 | 37 |
| • 8535-8536 Series - EN2997 / ESC15-16: |    |
| Technical features .....                | 38 |
| Ordering information .....              | 39 |
| Dimensions .....                        | 40 |
| Orientations .....                      | 42 |
| Connector weights .....                 | 43 |

#### Common Section

|                                   |    |
|-----------------------------------|----|
| • Contacts - EN3155 / ESC30 ..... | 46 |
| • Filler plugs .....              | 49 |
| • Sealing boots .....             | 49 |
| • Tooling .....                   | 50 |
| • Protective caps .....           | 52 |
| • Dummy receptacles .....         | 53 |
| • Coordinates information .....   | 54 |

#### Range Extension

|                                                    |    |
|----------------------------------------------------|----|
| • 230 Volts .....                                  | 64 |
| • Filtered connectors .....                        | 64 |
| • Power contacts for PCB .....                     | 65 |
| • Hermetic connector with removeable contacts .... | 65 |



853 Series

EN2997/ESC Qualified - Fire Wall Connectors

# Overview

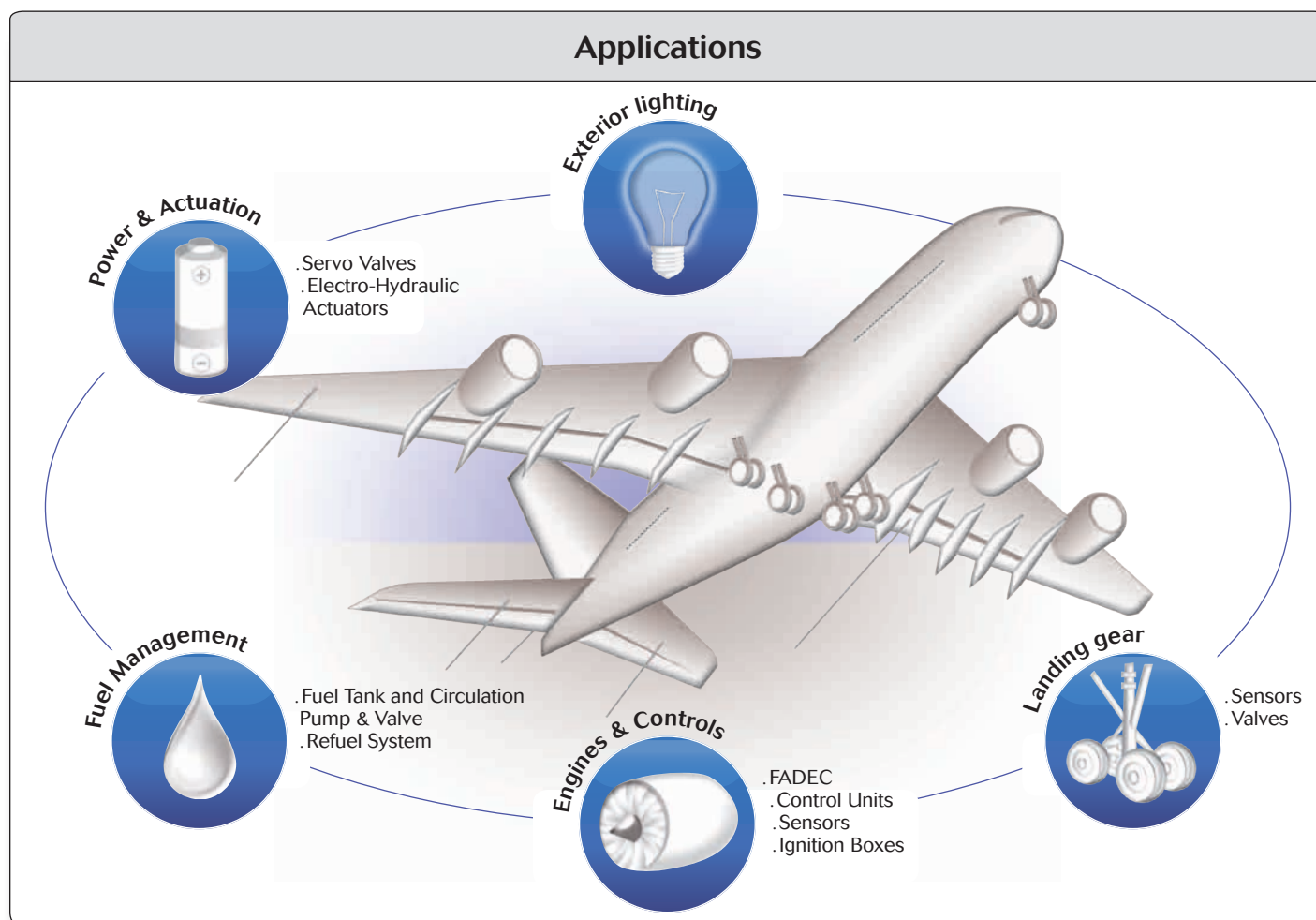
|                                          |    |
|------------------------------------------|----|
| ■ Applications .....                     | 06 |
| ■ Benefits .....                         | 06 |
| ■ Product overview .....                 | 07 |
| ■ Contact layouts 8533/8535 Series ..... | 08 |
| ■ Contact layouts 8534/8536 Series ..... | 10 |
| ■ Contact layouts (matrix) .....         | 11 |

# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors



### Applications



### Benefits

#### High temperature firewall connector

- Resist up to 260°C (500°F)
- Flame test per EN 2591



#### Excellent corrosion performances

- Up to 500 hours salt spray



#### Upgraded vibration performances

- Self locking coupling mechanism to resist the highest vibration performances



#### EMI & Lightning Resistance

- Protection of the signal thanks to:
  - . EMI grounding ring
  - . shell to shell bottoming
  - . 360° rear accessory teeth



#### Qualified per ASD Cert EN2997 and Rolls Royce ESC Standards

**MIL-83723 Series III based design,**  
including additional features to respond  
to today's aircraft's harshest needs.



# 853 Series

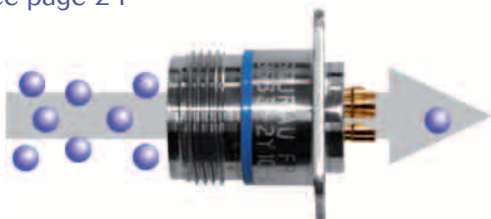
## EN2997/ESC Qualified - Fire Wall Connectors



### Product overview

#### 8533 Hermetic version

See page 24



- For hermetic interface or space constrained application.
- Leak rate  $< 10^{-9}$  atm.cm<sup>3</sup>/s.
- Solder cup & PC Tail contacts.

#### 8533 Quadrax / 8533 Power

See page 30



- Quadrax contacts for high speed ethernet network.
- Power contacts for high power current under temperature and vibration constraints.
- ABS qualified solution.

#### 8533 Standard version

See page 14



#### 8534 Scoop Proof

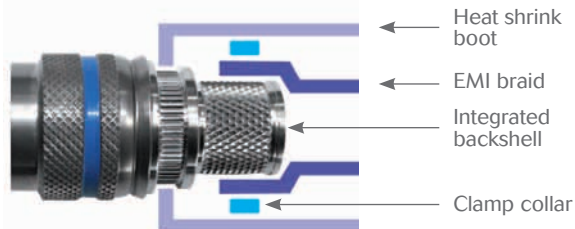
See page 34



- For blind mate connection.
- ESC11 qualified.

#### 8535/8536 integrated backshell

See page 38



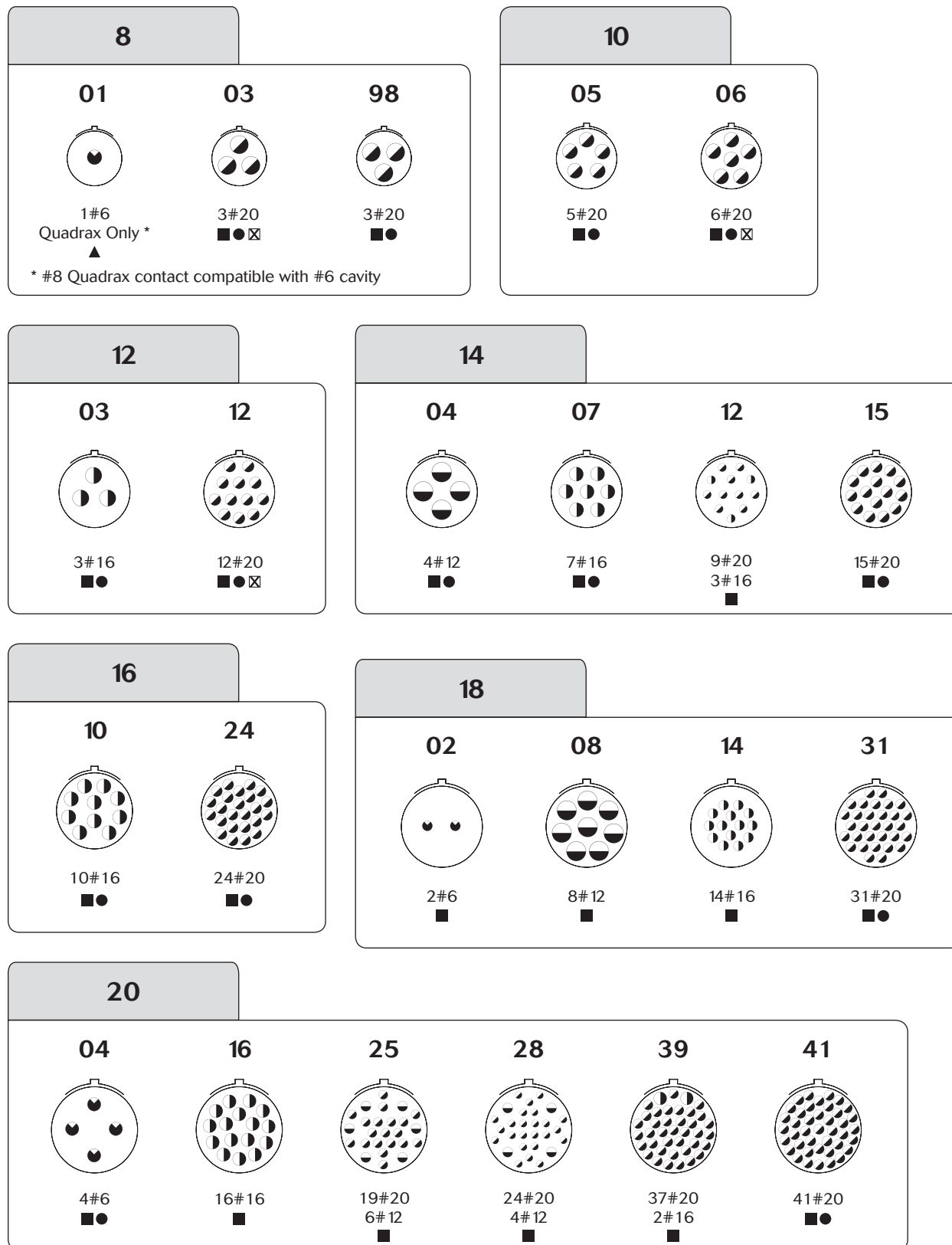
- For weight saving solutions.
- ESC15 and ESC16 qualified.

# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors



### Contact layouts 8533/8535 Series



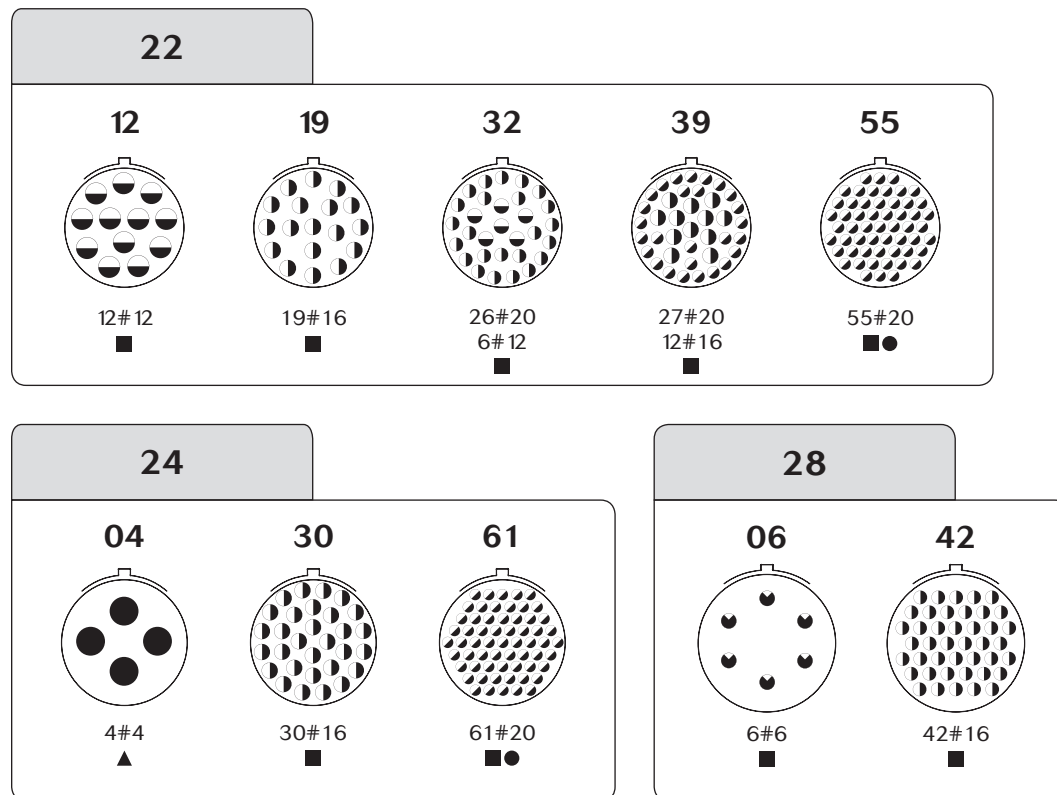




# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors

### Contact layouts 8533/8535 Series



#### Connector type

- ▲ Class 200°C
- Classes 200°C & 260°C
- Hermetic 200°C & 260°C (8533 only)
- ☒ Fuel tank

#### Contact size

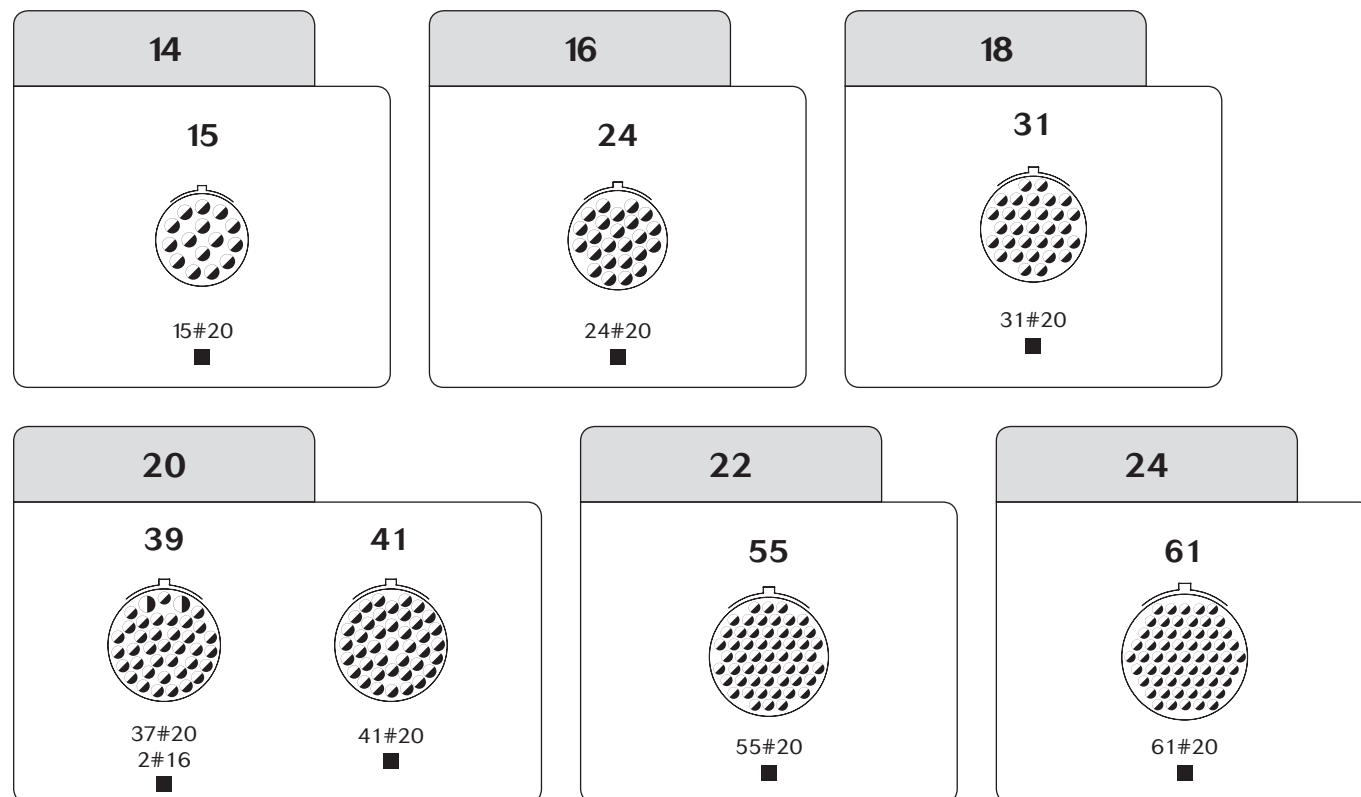
- Contact #20
- Contact #16
- Contact #12
- Contact #6 power & contact #8 quadrax
- Contact #4 power



# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors

### Contact layouts 8534/8536 Series



#### Connector type

■ Classes 200°C  
& 260°C

#### Contact size

- Contact #20
- Contact #16

# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors



### Contact layouts (matrix)

| Shell size | Layout | 8533 | EN2997           | ESC10 | ABS Power & Quadrax | 8533 hermetic | EN2997 hermetic  | 8533 spec. 022 | ESC10 hermetic | 8535 | ESC15 | 8534 8536 | ESC11 ESC16 | Number of contacts |     |     |    |    |    |
|------------|--------|------|------------------|-------|---------------------|---------------|------------------|----------------|----------------|------|-------|-----------|-------------|--------------------|-----|-----|----|----|----|
|            |        |      |                  |       |                     |               |                  |                |                |      |       |           |             | #20                | #16 | #12 | #8 | #6 | #4 |
| 08         | 08-01  |      |                  |       | (3)                 |               |                  |                |                |      |       |           |             |                    |     |     | 1  |    |    |
|            | 08-03  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           |             | 3                  |     |     |    |    |    |
|            | 08-98  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           |             | 3                  |     |     |    |    |    |
| 10         | 10-05  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           |             | 5                  |     |     |    |    |    |
|            | 10-06  |      | Q                |       |                     |               | Q <sup>(1)</sup> |                |                |      | Q     |           |             | 6                  |     |     |    |    |    |
| 12         | 12-03  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           |             |                    | 3   |     |    |    |    |
|            | 12-12  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           |             | 12                 |     |     |    |    |    |
| 14         | 14-04  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           |             |                    |     | 4   |    |    |    |
|            | 14-07  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           |             |                    | 7   |     |    |    |    |
|            | 14-12  |      | Q <sup>(1)</sup> |       |                     |               |                  |                |                |      |       |           |             | 9                  | 3   |     |    |    |    |
|            | 14-15  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           | Q           | 15                 |     |     |    |    |    |
| 16         | 16-10  |      | Q                | Q     |                     |               | Q <sup>(1)</sup> |                | Q              |      | Q     |           |             |                    | 10  |     |    |    |    |
|            | 16-24  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           | Q           | 24                 |     |     |    |    |    |
| 18         | 18-02  |      |                  |       |                     |               |                  |                |                |      |       |           |             |                    |     |     |    | 2  |    |
|            | 18-08  |      | Q                | Q     |                     |               |                  |                |                |      |       |           |             |                    |     | 8   |    |    |    |
|            | 18-14  |      | Q                | Q     |                     |               | Q                |                |                |      | Q     |           |             |                    | 14  |     |    |    |    |
|            | 18-31  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           | Q           | 31                 |     |     |    |    |    |
| 20         | 20-04  |      |                  |       |                     |               |                  |                |                |      |       |           |             |                    |     |     |    | 4  |    |
|            | 20-16  |      | Q                |       |                     |               |                  |                |                |      |       |           |             |                    | 16  |     |    |    |    |
|            | 20-25  |      | Q <sup>(1)</sup> |       |                     |               |                  |                |                |      |       |           |             | 19                 |     | 6   |    |    |    |
|            | 20-28  |      | Q <sup>(1)</sup> |       |                     |               |                  |                |                |      |       |           |             | 24                 |     | 4   |    |    |    |
|            | 20-39  |      | Q                | Q     |                     |               |                  |                |                |      | Q     |           | Q           | 37                 | 2   |     |    |    |    |
|            | 20-41  |      | Q                | Q     |                     |               | Q <sup>(1)</sup> |                | Q              |      | Q     |           | Q           | 41                 |     |     |    |    |    |
| 22         | 22-12  |      | Q                | Q     |                     |               |                  |                | Q              |      |       |           |             |                    |     | 12  |    |    |    |
|            | 22-19  |      | Q                | Q     |                     |               |                  |                | Q              |      | Q     |           |             |                    | 19  |     |    |    |    |
|            | 22-32  |      | Q <sup>(1)</sup> |       |                     |               |                  |                |                |      |       |           |             | 26                 |     | 6   |    |    |    |
|            | 22-39  |      | Q                |       |                     |               |                  |                |                |      |       |           |             | 27                 | 12  |     |    |    |    |
|            | 22-55  |      | Q                | Q     |                     |               | Q                |                | Q              |      | Q     |           | Q           | 55                 |     |     |    |    |    |
| 24         | 24-04  |      |                  |       |                     |               |                  |                |                |      |       |           |             |                    |     |     |    |    | 4  |
|            | 24-30  |      | Q                | Q     |                     |               |                  |                |                |      | Q     |           |             |                    | 30  |     |    |    |    |
|            | 24-61  |      | Q                | Q     |                     |               |                  |                | Q              |      | Q     |           | Q           | 61                 |     |     |    |    |    |
| 28         | 28-06  |      |                  |       |                     |               |                  |                |                |      |       |           |             |                    |     |     |    | 6  |    |
|            | 28-42  |      | Q <sup>(2)</sup> | Q     |                     |               |                  |                |                |      | Q     |           |             |                    | 42  |     |    |    |    |

Souriau's layout

**Q** Souriau's layout & Layout according to corresponding norm

(1) Under qualification

(2) Only developed for square flange receptacle all classes and stainless steel plug (for other configuration, please consult us)

(3) Quadrax contact only



## 853 Series

EN2997/ESC Qualified - Fire Wall Connectors

# Series

|                               |    |
|-------------------------------|----|
| ■ 8533 Standard Version ..... | 14 |
| ■ 8533 Hermetic Version ..... | 24 |
| ■ 8533 Power & Quadrax .....  | 30 |
| ■ 8534 Series .....           | 34 |
| ■ 8535/8536 Series .....      | 38 |

# 8533 Series

## Standard Version



## Description

- **Stainless steel screw coupling** connector derived from MIL-C-83723 & designed for use in aviation **harsh environments**:
  - . high vibration resistance
  - . high temperature resistance (up to 260°C)
  - . Fireproof (1100°C)
- **Qualified** to AECMA **EN2997** standard and to Rolls Royce **ESC10** standard
- Large array of crimp contacts, **EN3155** and **ESC30** qualified:
  - . size 12, 16 & 20 standard contacts
  - . size 12, 16 & 20 thermocouple contacts for temperature measurement
- **Fuel immersion** version available



## Technical features

### Mechanical

- **Shell:**
  - . aluminum alloy (class R, W and A)
  - . stainless steel (class K and E)
- **Plating:**
  - . nickel (class R)
  - . olive green cadmium (class W)
  - . black anodized (class A)
  - . passivated (class K and E)
- **Grommet and seal:**
  - . silicone elastomer
- **Insulator:**
  - . thermoplastic
- **Contact body:**
  - . copper alloy
- **Contact plating:**
  - . gold over nickel
- **Contact retention:**
  - . size 20: 90 N
  - . size 16: 110 N
  - . size 12: 130 N
- **Mating cycles:**
  - . 250 mating cycles (class R and W)
  - . 500 mating cycles (class K and E)
- **Shock:**
  - . 300 m/s<sup>2</sup> (30g) during 3 ms
- **Vibration:**
  - . random 5 Hz to 2000 Hz at 1G<sup>2</sup>/Hz (2 x 8 hours)

### Electrical

- **Dielectric withstanding:**

| Altitude  | Service I |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |

- **Contact resistance:**
  - . initial contact resistance at ambient temperature as per EN 2997 and EN3155

| Contacts size | 20  | 16  | 12  |
|---------------|-----|-----|-----|
| Resistance mΩ | 7.3 | 3.8 | 3.5 |

- **Insulation resistance:**
  - . 5000 MΩ at 500 Vdc

- **Max current rating per contact:**

| Contacts size | 20  | 16 | 12 |
|---------------|-----|----|----|
| Rating (A)    | 7.5 | 13 | 23 |

- **Electrical continuity:**
  - . 5 mΩ max with RFI shielding
  - . 60 mΩ without RFI shielding

- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB

- **Lightning strike (3K & 3E classes):**
  - . 15A according D0160, wave 5A

### Environmental

- **Operating temperature:**
  - . class W: -65° to +175°C (-149° to +347°F)
  - . class R, A and K: -65° to +200°C (-149° to +392°F)
  - . class E: -65° to +260°C (-149° to +500°F)
  - . fuel tank long term immersion version specification 22 limited to +105°C max
- **Leakage:**
  - . as per 2591-312:
    - Method B differential pressure: 100kPa
    - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt spray:**
  - . 48 hours (class R)
  - . 500 hours (class W, K, E and A)
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243
- **Fire resistance:**
  - . as per EN 2591-318:
    - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class)

### Fuel resistance

- **Standard version:**
  - . as per EN2997
- **Long term immersion (specification 22):**
  - . as per PrEN3645 3 cycles of 96 hours in fuel



# 8533 Series

## Standard Version



## Ordering information

### Standards connectors - Souriau part numbers

|                                                                                                                                                                                                                                                                                          |      |   |   |   |    |    |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---|---|---|----|----|---|---|---|
| Basic Series                                                                                                                                                                                                                                                                             | 8533 | 0 | R | S | 14 | 15 | P | N | - |
| <b>Shell type:</b><br>0: Square flange receptacle<br>3: Plug with RFI screening ring<br>4: Plug without RFI screening ring<br>7: Jam nut receptacle                                                                                                                                      |      |   |   |   |    |    |   |   |   |
| <b>Class:</b><br>W: 175°C aluminum olive drab cadmium conductive plating<br>R: 200°C aluminum nickel conductive plating<br>A: 200°C aluminum black anodized non conductive plating<br>K: 200°C stainless steel<br>E: 260°C stainless steel<br><br>S: With 360° teeth                     |      |   |   |   |    |    |   |   |   |
| <b>Shell size:</b><br>08, 10, 12, 14, 16, 18, 20, 22, 24, 28                                                                                                                                                                                                                             |      |   |   |   |    |    |   |   |   |
| <b>Contact layout:</b><br>See page 08                                                                                                                                                                                                                                                    |      |   |   |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin<br>S: Socket                                                                                                                                                                                                                                              |      |   |   |   |    |    |   |   |   |
| <b>Orientation:</b><br>N, 6, 7, 8, 9 (See page 19)                                                                                                                                                                                                                                       |      |   |   |   |    |    |   |   |   |
| <b>Specification:</b><br>None: Connector supplied with standard contacts<br>L: Connector supplied without contact<br>08: Connector supplied with large barrel contacts<br>22: Fuel immersion version<br>68: Connector supplied with contacts # 20 large barrel and standard contact # 16 |      |   |   |   |    |    |   |   |   |

### ESC10 Qualified products

|                                                                                                                                                                                       |       |    |   |    |    |   |   |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|---|----|----|---|---|---|
| Basic Series                                                                                                                                                                          | ESC10 | KE | 0 | 10 | 05 | P | N | 0 |
| <b>Shell type:</b><br>KE: 260°C stainless steel: standard receptacle; plug without RFI screening ring<br>SE: 260°C stainless steel: standard receptacle; plug with RFI screening ring |       |    |   |    |    |   |   |   |
| <b>Shell type:</b><br>0: Square flange receptacle<br>6: Plug                                                                                                                          |       |    |   |    |    |   |   |   |
| <b>Shell size:</b><br>08, 10, 12, 14, 16, 18, 20, 22, 24, 28                                                                                                                          |       |    |   |    |    |   |   |   |
| <b>Contact layout:</b><br>See page 08                                                                                                                                                 |       |    |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin<br>S: Socket                                                                                                                                           |       |    |   |    |    |   |   |   |
| <b>Orientation:</b><br>N, 6, 7, 8, 9 (See page 19)                                                                                                                                    |       |    |   |    |    |   |   |   |
| <b>Variant identifier:</b><br>0: Connector delivered without contact                                                                                                                  |       |    |   |    |    |   |   |   |

# 8533 Series

## Standard Version



### EN2997 Qualified products

| Basic Series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EN2997 | RS0 | 14 | 15 | M | N |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|----|----|---|---|
| <b>Class &amp; Shell type:</b><br><b>Plug without RFI shielding ring:</b><br>W6 : 175°C Aluminum olive-green cadmium plating, conductive finish<br>R6 : 200°C Aluminum nickel conductive plating<br>K6 : 200°C Stainless steel<br>KE6 : 260°C Stainless steel<br><b>Plug with RFI shielding ring:</b><br>WS6 : 175°C Aluminum olive-green cadmium plating, conductive finish<br>RS6 : 200°C Aluminum nickel conductive plating<br>S6 : 200°C Stainless steel<br>SE6 : 260°C Stainless steel<br><b>Square flange receptacle:</b><br>WS0 : 175°C Aluminum olive-green cadmium plating, conductive finish<br>RS0 : 200°C Aluminum nickel conductive plating<br>S0 : 200°C Stainless steel<br>SE0 : 260°C Stainless steel<br><b>Jam nut receptacle:</b><br>WS7 : 175°C Aluminum olive-green cadmium plating, conductive finish<br>RS7 : 200°C Aluminum nickel conductive plating<br>S7 : 200°C Stainless steel<br>SE7 : 260°C Stainless steel |        |     |    |    |   |   |
| <b>Shell size:</b><br>08, 10, 12, 14, 16, 18, 20, 22, 24, 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |     |    |    |   |   |
| <b>Contact layout:</b><br>See page 08                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |     |    |    |   |   |
| <b>Contact type:</b><br>M: Male contact<br>A: Connector delivered without male contact<br>C: Connector delivered with male contact #20 large barrel<br>F: Female contact<br>B: Connector delivered without female contact<br>D: Connector delivered with female contact #20 large barrel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |     |    |    |   |   |
| <b>Orientation:</b><br>N, 6, 7, 8, 9, Y (See page 19)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |     |    |    |   |   |

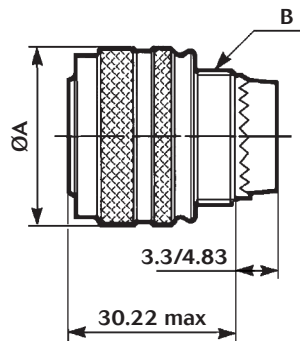
# 8533 Series

## Standard Version



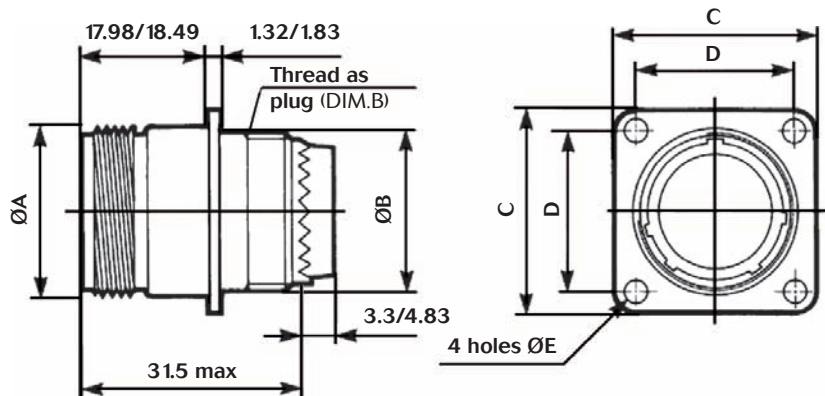
## Dimensions

### Plug



| Shell size | 08                 | 10                 | 12                 | 14                 | 16               | 18                    | 20                    | 22                    | 24                    | 28                   |
|------------|--------------------|--------------------|--------------------|--------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| A Max      | 21.30              | 24.90              | 29.60              | 31.24              | 34.42            | 37.34                 | 41.91                 | 44.07                 | 47.24                 | 55.24                |
| B Thread   | 1/2"-20<br>UNEF 2A | 5/8"-24<br>UNEF 2A | 3/4"-20<br>UNEF 2A | 7/8"-20<br>UNEF 2A | 1"-20<br>UNEF 2A | 1-1/16"-18<br>UNEF 2A | 1-3/16"-18<br>UNEF 2A | 1-5/16"-18<br>UNEF 2A | 1-7/16"-18<br>UNEF 2A | 1-3/4"-18<br>UNEF 2A |

### Square flange receptacle



| Shell size | 08        | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24        | 28    |
|------------|-----------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|
| A Max      | 14.27     | 17.67 | 22.22 | 23.77 | 26.97 | 30.15 | 33.32 | 36.49 | 39.67     | 46.02 |
| B Max      | 12.7      | 15.88 | 19.05 | 22.23 | 25.40 | 26.97 | 30.18 | 33.32 | 36.53     | 44.45 |
| C Max      | 20.75     | 23.93 | 26.32 | 28.71 | 31.88 | 34.24 | 36.63 | 39.80 | 43.39     | 50.93 |
| D          | 15.09     | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92     | 39.67 |
| E          | 3.10/3.30 |       |       |       |       |       |       |       | 3.68/3.91 |       |

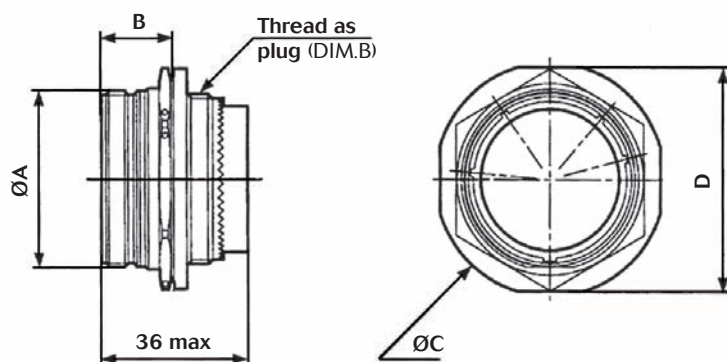
Note: All dimensions are in millimeters (mm)

# 8533 Series

## Standard Version



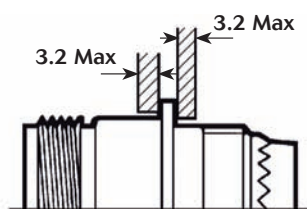
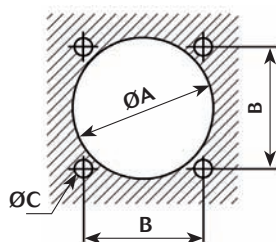
### Jam nut receptacle



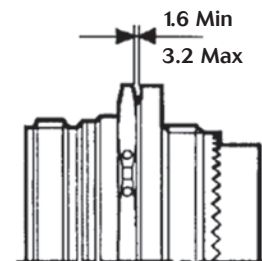
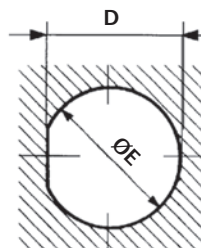
| Shell size | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A Max      | 14.27 | 17.67 | 22.22 | 23.77 | 26.97 | 30.15 | 33.32 | 36.49 | 39.67 |
| B Max      | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 |
| C Max      | 27.38 | 30.28 | 35.05 | 38.51 | 41.68 | 44.86 | 49.63 | 52.78 | 55.42 |
| D Max      | 24.89 | 28.04 | 32.79 | 35.33 | 38.51 | 41.68 | 44.86 | 49.63 | 52.81 |

### Panel cut out

Type 0 square flange receptacle



Type 7 jam nut receptacle



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A min      | 15.8  | 18.7  | 23.4  | 24.9  | 28.3  | 31.1  | 34.5  | 37.5  | 40.6  | 48    |
| B          | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 39.36 | 31.75 | 34.92 | 39.67 |
| C          | 3.2   |       |       |       |       |       |       |       | 3.8   |       |
| D Min      | 15.24 | 18.41 | 23.16 | 24.76 | 27.94 | 30.99 | 34.16 | 37.33 | 40.51 | -     |
| E Min      | 16.00 | 19.17 | 23.92 | 25.52 | 28.70 | 31.87 | 35.05 | 38.22 | 41.40 | -     |

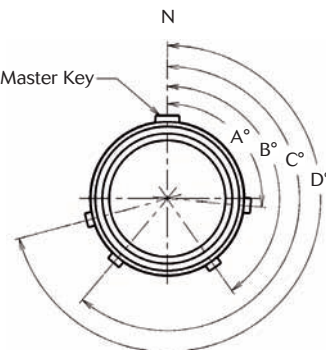
Note: All dimensions are in millimeters (mm)

# 8533 Series

## Standard Version



## Orientation

| Orientation                                                                                                      |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |     |     |     |     |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|------------------------------------------------------------------------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|------------|--------|---|---|---|---|---|---|----|----|-----|-----|----|----|----|---|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|----------|----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|
|  <p>Front face view of plug</p> |        | <table> <tr> <th>Shell size</th><th>Angles</th><th>N</th><th>6</th><th>7</th><th>8</th><th>9</th><th>y</th></tr> <tr> <td rowspan="4">08</td><td>A°</td><td>105</td><td>102</td><td>80</td><td>35</td><td>64</td><td rowspan="4">-</td></tr> <tr> <td>B°</td><td>140</td><td>132</td><td>118</td><td>140</td><td>155</td></tr> <tr> <td>C°</td><td>215</td><td>248</td><td>230</td><td>205</td><td>234</td></tr> <tr> <td>D°</td><td>265</td><td>320</td><td>312</td><td>275</td><td>304</td></tr> <tr> <td rowspan="4">10</td><td>A°</td><td>105</td><td>102</td><td>80</td><td>35</td><td>64</td><td>25</td></tr> <tr> <td>B°</td><td>140</td><td>132</td><td>118</td><td>140</td><td>155</td><td>115</td></tr> <tr> <td>C°</td><td>215</td><td>248</td><td>230</td><td>205</td><td>234</td><td>220</td></tr> <tr> <td>D°</td><td>265</td><td>320</td><td>312</td><td>275</td><td>304</td><td>270</td></tr> <tr> <td rowspan="4">12 to 28</td><td>A°</td><td>105</td><td>18</td><td>92</td><td>84</td><td>24</td><td>98</td></tr> <tr> <td>B°</td><td>140</td><td>149</td><td>152</td><td>152</td><td>135</td><td>152</td></tr> <tr> <td>C°</td><td>215</td><td>192</td><td>222</td><td>204</td><td>199</td><td>268</td></tr> <tr> <td>D°</td><td>265</td><td>259</td><td>342</td><td>334</td><td>240</td><td>338</td></tr> </table> |     |     |     |     |     | Shell size | Angles | N | 6 | 7 | 8 | 9 | y | 08 | A° | 105 | 102 | 80 | 35 | 64 | - | B° | 140 | 132 | 118 | 140 | 155 | C° | 215 | 248 | 230 | 205 | 234 | D° | 265 | 320 | 312 | 275 | 304 | 10 | A° | 105 | 102 | 80 | 35 | 64 | 25 | B° | 140 | 132 | 118 | 140 | 155 | 115 | C° | 215 | 248 | 230 | 205 | 234 | 220 | D° | 265 | 320 | 312 | 275 | 304 | 270 | 12 to 28 | A° | 105 | 18 | 92 | 84 | 24 | 98 | B° | 140 | 149 | 152 | 152 | 135 | 152 | C° | 215 | 192 | 222 | 204 | 199 | 268 | D° | 265 | 259 | 342 | 334 | 240 | 338 |
| Shell size                                                                                                       | Angles | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6   | 7   | 8   | 9   | y   |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
| 08                                                                                                               | A°     | 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 102 | 80  | 35  | 64  | -   |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | B°     | 140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 132 | 118 | 140 | 155 |     |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | C°     | 215                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 248 | 230 | 205 | 234 |     |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | D°     | 265                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 320 | 312 | 275 | 304 |     |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
| 10                                                                                                               | A°     | 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 102 | 80  | 35  | 64  | 25  |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | B°     | 140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 132 | 118 | 140 | 155 | 115 |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | C°     | 215                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 248 | 230 | 205 | 234 | 220 |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | D°     | 265                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 320 | 312 | 275 | 304 | 270 |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
| 12 to 28                                                                                                         | A°     | 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 18  | 92  | 84  | 24  | 98  |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | B°     | 140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 149 | 152 | 152 | 135 | 152 |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | C°     | 215                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 192 | 222 | 204 | 199 | 268 |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |
|                                                                                                                  | D°     | 265                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 259 | 342 | 334 | 240 | 338 |            |        |   |   |   |   |   |   |    |    |     |     |    |    |    |   |    |     |     |     |     |     |    |     |     |     |     |     |    |     |     |     |     |     |    |    |     |     |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |          |    |     |    |    |    |    |    |    |     |     |     |     |     |     |    |     |     |     |     |     |     |    |     |     |     |     |     |     |

## Connector weight

| Shell size | Mass max. (g) less contact |          |                 |          |                 |          |
|------------|----------------------------|----------|-----------------|----------|-----------------|----------|
|            | Square flange              |          | Jam nut         |          | Plug            |          |
|            | Stainless steel            | Aluminum | Stainless steel | Aluminum | Stainless steel | Aluminum |
| 08         | 19                         | 11       | 32              | 15       | 31              | 14       |
| 10         | 28                         | 16       | 41              | 21       | 44              | 21       |
| 12         | 39                         | 27       | 58              | 30       | 57              | 26       |
| 14         | 51                         | 30       | 68              | 35       | 72              | 38       |
| 16         | 62                         | 34       | 82              | 46       | 82              | 39       |
| 18         | 73                         | 36       | 88              | 51       | 95              | 43       |
| 20         | 82                         | 40       | 100             | 56       | 108             | 48       |
| 22         | 90                         | 51       | 123             | 69       | 121             | 65       |
| 24         | 105                        | 58       | 137             | 82       | 134             | 67       |
| 28         | 126                        | 88       | 191             | 120      | 160             | 103      |

Mass of crimp contacts: see p.46.

# 8533 Series

## Standard Version

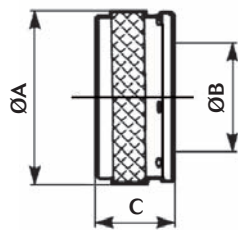


## Backshells

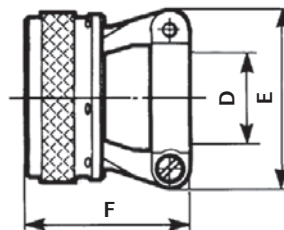
### Backnut and cable clamp

#### Dimensions

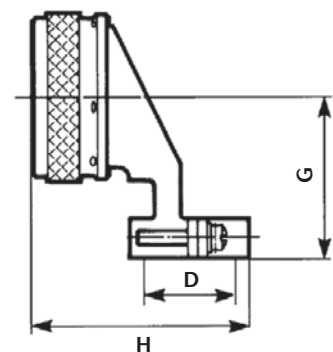
**Backnut**  
Type 31 (aluminum)  
Type 01 (stainless steel)



**Straight cable clamp**  
Type 52 (aluminum)  
Type 02 (stainless steel)



**Elbow cable clamp**  
Type 51 (aluminum)



| Shell size | A Max | B     | C $\pm 0.7$ | D $\pm 0.15$ | E Max | F Max | G Max | H Max | Torque values Nm |
|------------|-------|-------|-------------|--------------|-------|-------|-------|-------|------------------|
| 08         | 15.67 | 6.85  | 12.85       | 4            | 19.25 | 22.61 | 20.50 | 27.96 | 8.6              |
| 10         | 18.64 | 9.50  |             | 6.85         | 20.45 | 25.40 | 22.00 | 30.04 | 11.5             |
| 12         | 21.79 | 12.90 |             | 10.15        | 24.35 | 28.60 | 23.60 | 34.95 | 16.1             |
| 14         | 24.99 | 14.85 |             | 11.7         | 25.85 | 28.58 | 25.20 | 36.47 | 17.3             |
| 16         | 28.24 | 18.03 |             | 15.5         | 32.75 | 31.75 | 26.80 | 40.25 | 17.3             |
| 18         | 30.94 | 20.04 |             | 17.5         | 36.15 | 38.10 | 31.30 | 43.10 | 17.3             |
| 20         | 34.16 | 23.21 |             | 20.7         | 38.75 | 41.28 | 32.90 | 46.27 | 20.7             |
| 22         | 37.29 | 26.39 |             | 23.9         | 41.25 | 43.55 | 34.50 | 49.45 | 20.7             |
| 24         | 40.46 | 29.30 |             | 27           | 44.35 | 47.62 | 36.10 | 52.62 | 20.7             |

#### Ordering information

##### Aluminum backshells

|                                    |     |    |   |    |
|------------------------------------|-----|----|---|----|
| Basic series                       | 852 | 31 | N | 14 |
| <b>Backshell type:</b>             |     |    |   |    |
| 31: Backnut                        |     |    |   |    |
| 52: Straight cable clamp           |     |    |   |    |
| 51: Elbow cable clamp              |     |    |   |    |
| <b>Plating:</b>                    |     |    |   |    |
| A: Black anodized                  |     |    |   |    |
| N: Nickel                          |     |    |   |    |
| W: Olive green cadmium             |     |    |   |    |
| <b>Shell size:</b>                 |     |    |   |    |
| 08, 10, 12, 14, 16, 18, 20, 22, 24 |     |    |   |    |

##### Stainless steel backshells

|                                            |      |    |    |
|--------------------------------------------|------|----|----|
| Basic series                               | 8527 | 01 | 14 |
| <b>Backshell type:</b>                     |      |    |    |
| 01: Backnut                                |      |    |    |
| 02: Straight cable clamp                   |      |    |    |
| <b>Shell size:</b>                         |      |    |    |
| 08, 10, 12, 14, 16, 18, 20, 22, 24         |      |    |    |
| <b>Specification:</b>                      |      |    |    |
| A: Mandatory suffix for backshells type 02 |      |    |    |

Note: All dimensions are in millimeters (mm)

# 8533 Series

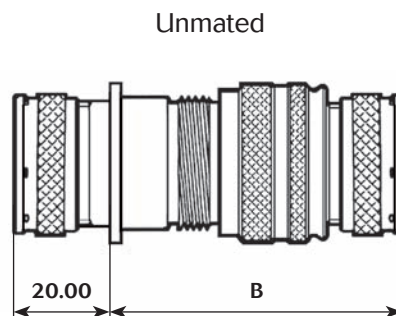
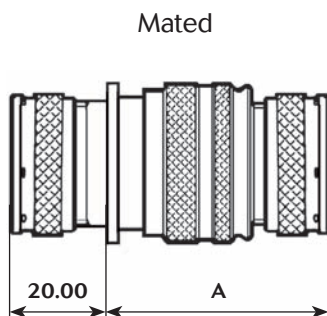
## Standard Version



### Length - mated/unmated connectors with backshells

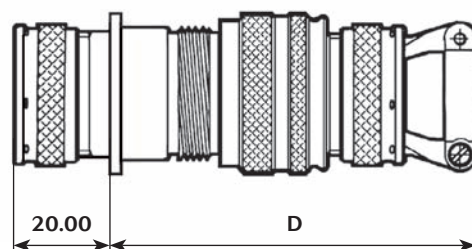
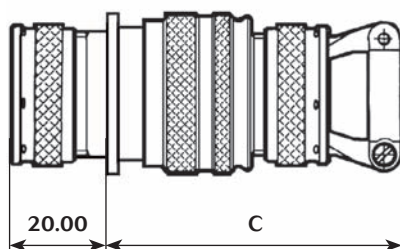
Backnut + Square flange  
receptacle + Plug +  
Backnut

Backnut Type 31 (aluminum)  
or Type 01 (stainless steel)



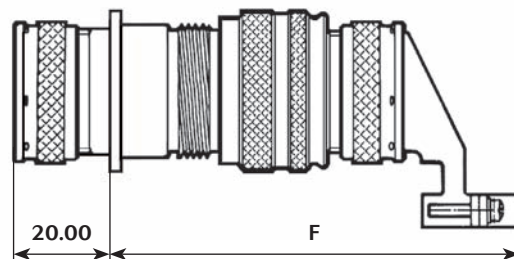
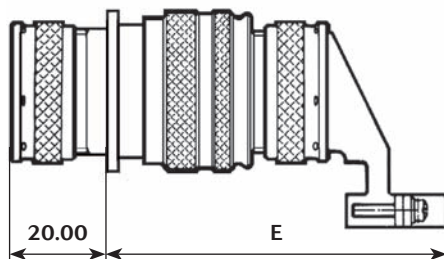
Backnut + Square flange  
receptacle + Plug +  
Straight cable clamp

Straight cable clamp  
Type 52 (aluminum)  
or Type 02 (stainless steel)



Backnut + Square flange  
receptacle + Plug +  
Elbow cable clamp

Elbow cable clamp  
Type 51 (aluminum)



| Shell<br>size | Length (mm)            |             |              |             |              |             |              |             |
|---------------|------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|               | with Type 31 & Type 01 |             | with Type 52 |             | with Type 02 |             | with Type 51 |             |
|               | A (mated)              | B (unmated) | C (mated)    | D (unmated) | C (mated)    | D (unmated) | E (mated)    | F (unmated) |
| 8             | 42                     | 53          | 51.8         | 62.8        | 51.8         | 62.8        | 56.75        | 67.75       |
| 10            |                        |             | 53.6         | 64.6        | 54.65        | 65.65       | 58.45        | 69.45       |
| 12            |                        |             | 57           | 68          | 57.8         | 68.8        | 61.05        | 72.05       |
| 14            |                        |             | 57           | 68          | 57.8         | 68.8        | 62.55        | 73.55       |
| 16            |                        |             | 60           | 71          | 61           | 72          | 66.45        | 77.45       |
| 18            |                        |             | 67           | 78          | 67.35        | 78.35       | 67.85        | 78.85       |
| 20            |                        |             | 69.6         | 80.6        | 70.8         | 81.8        | 69.4         | 80.4        |
| 22            |                        |             | 73.5         | 84.5        | 73.7         | 84.7        | 71.05        | 82.05       |
| 24            |                        |             | 75.9         | 86.9        | 76.9         | 87.9        | 72.65        | 83.65       |

Note: All dimensions are in millimeters (mm)

# 8533 Series

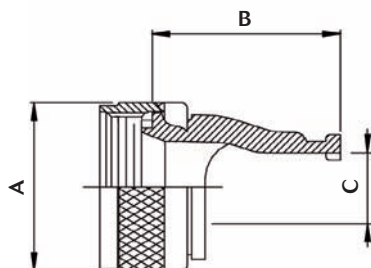
## Standard Version



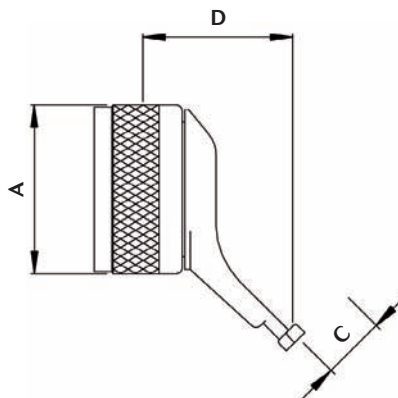
### Aluminum plastic collar

#### Dimensions

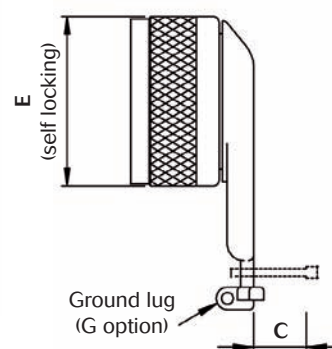
Straight plastic collar  
Type 53



45° plastic collar  
Type 54



90° plastic collar  
Type 55



| Shell size | A Max | B Max | C     | D Max | E Max |
|------------|-------|-------|-------|-------|-------|
| 08         | 15.67 | 24.23 | 6.60  | 31.29 | 16.68 |
| 10         | 18.64 | 24.23 | 9.27  | 31.29 | 19.86 |
| 12         | 21.79 | 24.23 | 12.73 | 31.29 | 23.79 |
| 14         | 24.99 | 30.58 | 14.60 | 31.29 | 26.67 |
| 16         | 28.24 | 30.58 | 17.78 | 31.29 | 31.47 |
| 18         | 30.94 | 30.58 | 19.79 | 31.29 | 35.00 |
| 20         | 34.16 | 33.27 | 22.96 | 37.64 | 38.10 |
| 22         | 37.29 | 36.32 | 26.14 | 37.64 | 41.42 |
| 24         | 40.46 | 39.62 | 29.06 | 37.64 | 44.50 |

#### Ordering information

Basic series

M85049/

55

-

10

A

#### Backshell type:

53: Straight plastic collar

54: 45° plastic collar

55: 90° plastic collar

#### Configuration (55 type only):

-: Standard without self-locking

S: Self-locking

G: Self locking with grounding lug

#### Shell size:

08, 10, 12, 14, 16, 18, 20, 22, 24

#### Plating:

A: Black anodized

W: Olive green cadmium

Note: All dimensions are in millimeters (mm)



# 8533 Series

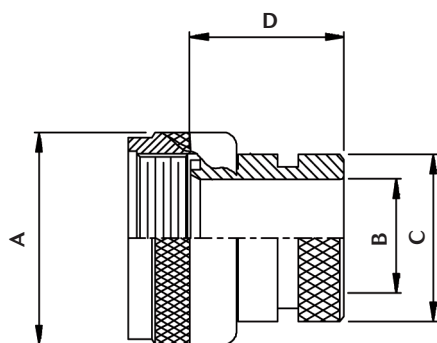
## Standard Version



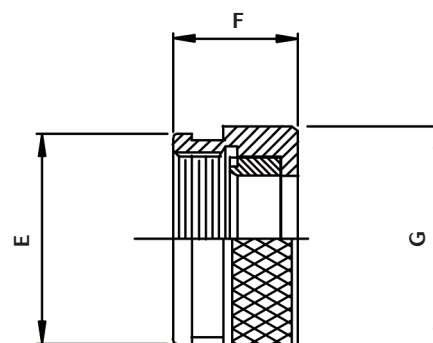
### Aluminum shrink boot adapters

#### Dimensions

Shrink boot adapter (removable)  
Type 60-1



Shrink boot adapter (non removable)  
Type 60-2G



| Shell size | A Max | B Min | C Max | D Max | E Max | F Max | G Max |
|------------|-------|-------|-------|-------|-------|-------|-------|
| 08         | 15.67 | 6.35  | 13.54 | 21.13 | 16.69 | 13.72 | 17.48 |
| 10         | 18.64 | 9.02  | 15.37 | 21.13 | 19.66 | 13.72 | 20.4  |
| 12         | 21.79 | 12.47 | 19.66 | 21.13 | 22.81 | 13.72 | 23.83 |
| 14         | 24.99 | 14.35 | 21.29 | 21.13 | 26.01 | 13.72 | 27.0  |
| 16         | 28.24 | 17.53 | 24.46 | 21.13 | 29.26 | 13.72 | 31.45 |
| 18         | 30.94 | 19.53 | 26.47 | 21.13 | 31.57 | 13.72 | 33.27 |
| 20         | 34.16 | 22.71 | 30.91 | 21.13 | 34.8  | 13.72 | 36.47 |
| 22         | 37.29 | 25.88 | 34.42 | 21.13 | 36.65 | 13.72 | 39.62 |
| 24         | 40.46 | 28.80 | 36.65 | 21.13 | 41.10 | 13.72 | 42.82 |
| 28         | 50.01 | 34.77 | 43.41 | 25.25 | 50.01 | 17.83 | 52.37 |

#### Ordering information

Basic series

M85049/

60-1

W

10

##### Backshell type:

60-1: Shrink boot adapter (removable)

60-2G: Shrink boot adapter (non removable)

##### Plating:

A: Black anodized

N: Nickel

W: Olive green cadmium

##### Shell size:

08, 10, 12, 14, 16, 18, 20, 22, 24, 28



# 8533 Series Hermetic Connectors

## Description

- Glass sealed hermetic:
  - . high hermeticity performance
  - . compact low profile
- Robust screw coupling according to EN 2997 and ESC10 standards
- Various mounting styles:
  - . compact solder mount receptacle
  - . easy to fix square flange receptacle
  - . easy to replace jam nut receptacle
- Signal and power solder cup contacts
- PCB contact version available
- Special fuel tank versions
- 230V qualified versions where higher voltage is used to reduce cable weight



## Applications

All purposes in severe climatic environments and high temperature, engine area, civil and military aircrafts, pressure and temperature sensors.

## Technical features

### Mechanical

- **Shell:**
  - . Passivated Stainless steel
- **Seals:**
  - . Silicone elastomer
- **Contact:**
  - . Ferrous alloy
- **Contact plating:**
  - . Gold
- **Shock:**
  - . 300 m/s<sup>2</sup> (30g) during 3 ms
- **Endurance:**
  - . 500 mating/unmating operations
- **Vibration:**
  - . Random 5 Hz to 2000 Hz at 1G<sup>2</sup>/Hz (2 x 8 hours)

### Electrical

- **Max current rating per contact:**

| Contact size | 20 | 16 | 12 | 6  | 4  |
|--------------|----|----|----|----|----|
| Rating (A)   | 5  | 10 | 17 | 46 | 60 |

- **Dielectric withstanding voltage:**

| Altitude  | Service I |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |

- **Contact resistance at rated current:**
  - . Maximum initial contact resistance at ambient temperature

| Contact size  | 20 | 16  | 12 | 6 | 4 |
|---------------|----|-----|----|---|---|
| Resistance mΩ | 12 | 8.5 | 5  | 2 | 2 |

### Environmental

- **Operating temperature:**
  - . Class Y : -65°C to 200°C
  - . Class YE : -65°C to 260°C cyclic
- **Hermeticity:**
  - . Leak rate up to <10<sup>-7</sup> atm.cm<sup>3</sup>/s (helium gas test)
- **Damp heat:**
  - . As per EN 2997 and NFL 54143: 10 cycles of 24h
- **Salt spray:**
  - . 500 hours
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243
- **Fuel immersion version:**
  - . 105°C max
  - . As per PrEN3645

# 8533 Series

## Hermetic Connectors



### Ordering information

#### Souriau part numbers

|                                                                                                                                                                                                                                                                                                                                                                              |      |   |   |    |    |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---|---|----|----|---|---|---|
| Basic series                                                                                                                                                                                                                                                                                                                                                                 | 8533 | 1 | y | 10 | 05 | P | N | - |
| <b>Shell type:</b><br>1: Solder mount receptacle<br>2: Square flange receptacle<br>7: Jam nut receptacle                                                                                                                                                                                                                                                                     |      |   |   |    |    |   |   |   |
| <b>Class:</b><br>y: 200°C<br>YE: 260°C                                                                                                                                                                                                                                                                                                                                       |      |   |   |    |    |   |   |   |
| Shell size: 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22                                                                                                                                                                                                                                                                                                                            |      |   |   |    |    |   |   |   |
| Contact layout: See page 08                                                                                                                                                                                                                                                                                                                                                  |      |   |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin                                                                                                                                                                                                                                                                                                                                               |      |   |   |    |    |   |   |   |
| Orientation: N - 6 - 7 - 8 - 9 - T - V - Y (see page 28)                                                                                                                                                                                                                                                                                                                     |      |   |   |    |    |   |   |   |
| <b>Specification</b> (other specification: see page 29):<br>None: Standard hermetic version (solder cup) - except for layout 20-04<br>112: Standard hermetic version (solder cup) - for layout 20-04 only<br>22: Hermetic fuel tank version (solder cup)<br>600: 230V qualified connector, delivered with contacts (layouts 12-03, 14-04, 14-07 & 20-04 - orientation T & V) |      |   |   |    |    |   |   |   |

#### EN2997 qualified products

|                                                                                                          |         |   |   |    |    |   |   |
|----------------------------------------------------------------------------------------------------------|---------|---|---|----|----|---|---|
| Basic series                                                                                             | EN 2997 | y | 0 | 08 | 03 | M | N |
| <b>Class:</b><br>y: 200°C<br>YE: 260°C                                                                   |         |   |   |    |    |   |   |
| <b>Shell type:</b><br>0: Square flange receptacle<br>1: Solder mount receptable<br>7: Jam nut receptable |         |   |   |    |    |   |   |
| Shell size: 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22                                                        |         |   |   |    |    |   |   |
| Contact layout: See page 08                                                                              |         |   |   |    |    |   |   |
| <b>Contact type:</b><br>P: Pin                                                                           |         |   |   |    |    |   |   |
| Orientation: N - 6 - 7 - 8 - 9 - Y (see page 28)                                                         |         |   |   |    |    |   |   |

#### ESC10 qualified products

|                                                                                                          |        |    |   |    |    |   |   |   |
|----------------------------------------------------------------------------------------------------------|--------|----|---|----|----|---|---|---|
| Basic series                                                                                             | ESC 10 | YE | 1 | 08 | 03 | P | N | 0 |
| <b>Class:</b><br>YE: 260°C                                                                               |        |    |   |    |    |   |   |   |
| <b>Shell type:</b><br>1: Solder mount receptacle<br>2: Square flange receptacle<br>3: Jam nut receptable |        |    |   |    |    |   |   |   |
| Shell size: 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22                                                        |        |    |   |    |    |   |   |   |
| Contact layout: See page 08                                                                              |        |    |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin                                                                           |        |    |   |    |    |   |   |   |
| Orientation: N - 6 - 7 - 8 - 9 - Y (see page 28)                                                         |        |    |   |    |    |   |   |   |
| 0: variant identifier                                                                                    |        |    |   |    |    |   |   |   |

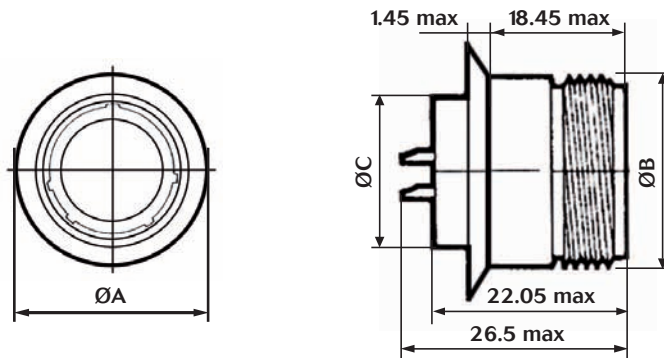
# 8533 Series

## Hermetic Connectors



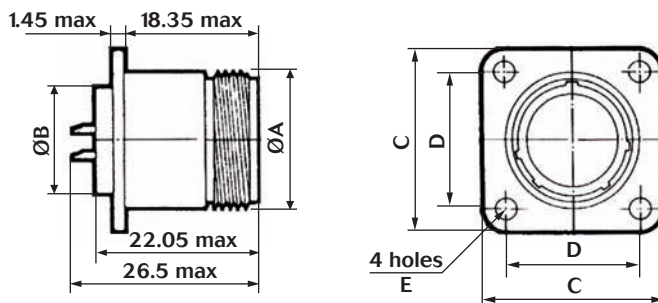
### Dimensions

#### Solder mount hermetic receptacle (Class Y & YE)



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ØA Max     | 18.36 | 21.59 | 26.80 | 27.94 | 30.99 | 34.39 | 37.34 | 40.64 | 43.68 |
| ØB Max     | 14.29 | 17.46 | 22.22 | 23.81 | 26.99 | 30.16 | 33.34 | 36.51 | 39.69 |
| ØC Max     | 12.70 | 14.27 | 19.05 | 20.62 | 23.80 | 26.97 | 30.15 | 33.32 | 36.50 |
| ØD Min     | 12.96 | 14.53 | 19.30 | 20.88 | 24.05 | 27.23 | 30.40 | 33.58 | 36.75 |

#### Square flange hermetic receptacle (Class Y & YE)



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ø A Max    | 14.27 | 17.67 | 22.22 | 23.77 | 26.97 | 30.15 | 33.32 | 36.49 | 39.67 |
| Ø B Max    | 12.70 | 14.27 | 19.05 | 20.62 | 23.80 | 26.97 | 30.15 | 33.82 | 36.50 |
| C Max      | 20.75 | 23.93 | 26.32 | 28.71 | 31.88 | 34.24 | 36.63 | 39.80 | 43.36 |
| D          | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92 |
| E Max      | 3.30  |       |       |       |       |       |       |       | 3.91  |

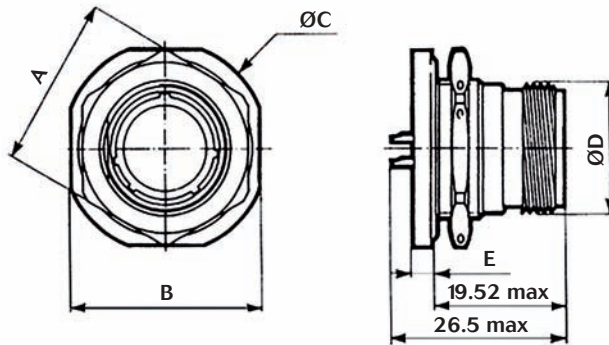
Note: All dimensions are in millimeters (mm)

# 8533 Series

## Hermetic Connectors



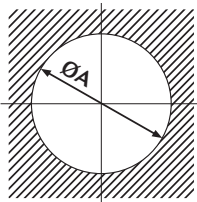
### Jam nut hermetic receptacle (Class Y & YE)



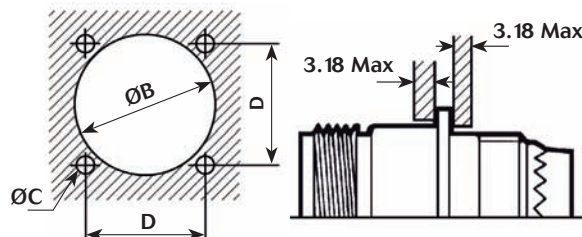
| Shell size                                                      | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|-----------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A Max                                                           | 21.06 | 24.23 | 29.01 | 30.61 | 33.76 | 36.96 | 40.11 | 43.31 | 46.46 |
| B Max                                                           | 24.89 | 28.04 | 32.79 | 35.33 | 38.51 | 41.68 | 44.86 | 49.63 | 52.81 |
| ØC Max                                                          | 27.38 | 30.28 | 35.05 | 38.51 | 41.68 | 44.86 | 49.63 | 52.78 | 55.42 |
| ØD Max                                                          | 14.29 | 17.46 | 22.22 | 23.81 | 26.99 | 30.16 | 33.34 | 36.51 | 39.69 |
| E Max                                                           | 3.48  |       |       |       |       |       |       | 3.76  |       |
| Tightening torque of attachment nut<br>Torque in N.m $\pm 10\%$ | 7     | 10    | 12    | 15    | 18    | 22    | 25    | 27    | 29    |

### Panel cut out

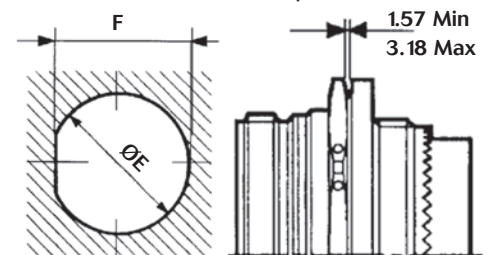
Type 1  
Solder mount  
receptacle



Type 2  
Square flange  
receptacle



Type 7  
Jam nut receptacle



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ØA Min     | 12.96 | 14.53 | 19.30 | 20.88 | 24.05 | 27.23 | 30.40 | 33.58 | 36.75 | -     |
| B min      | 15.8  | 18.7  | 23.4  | 24.9  | 28.3  | 31.1  | 34.5  | 37.5  | 40.6  | 48    |
| C          | 3.2   |       |       |       |       |       |       | 3.8   |       |       |
| D          | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 39.36 | 31.75 | 34.92 | 39.67 |
| E          | 16.00 | 19.17 | 23.92 | 25.52 | 28.70 | 31.87 | 35.05 | 38.22 | 41.40 | -     |
| F          | 15.24 | 18.41 | 23.16 | 24.76 | 27.94 | 30.99 | 34.16 | 37.33 | 40.51 | -     |

Note: All dimensions are in millimeters (mm)

# 8533 Series

## Hermetic Connectors



### Orientation

## Orientation

Front face view of receptacle

| Shell size         | Angles | N   | 6   | 7   | 8   | 9   | T   | V   | y   |
|--------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| 08                 | A°     | 105 | 102 | 80  | 35  | 64  | -   | -   | -   |
|                    | B°     | 140 | 132 | 118 | 140 | 155 | -   | -   | -   |
|                    | C°     | 215 | 248 | 230 | 205 | 234 | -   | -   | -   |
|                    | D°     | 265 | 320 | 312 | 275 | 304 | -   | -   | -   |
| 10                 | A°     | 105 | 102 | 80  | 35  | 64  | -   | -   | 25  |
|                    | B°     | 140 | 132 | 118 | 140 | 155 | -   | -   | 115 |
|                    | C°     | 215 | 248 | 230 | 205 | 234 | -   | -   | 220 |
|                    | D°     | 265 | 320 | 312 | 275 | 304 | -   | -   | 270 |
| 12 & 14            | A°     | 105 | 18  | 92  | 84  | 24  | 55  | 50  | 98  |
|                    | B°     | 140 | 149 | 152 | 152 | 135 | 145 | 156 | 152 |
|                    | C°     | 215 | 192 | 222 | 204 | 199 | 228 | 218 | 268 |
|                    | D°     | 265 | 259 | 342 | 334 | 240 | 280 | 290 | 338 |
| 20                 | A°     | 105 | 18  | 92  | 84  | 24  | 45  | 60  | 98  |
|                    | B°     | 140 | 149 | 152 | 152 | 135 | 160 | 165 | 152 |
|                    | C°     | 215 | 192 | 222 | 204 | 199 | 210 | 235 | 268 |
|                    | D°     | 265 | 259 | 342 | 334 | 240 | 300 | 285 | 338 |
| 16, 18,<br>22 & 24 | A°     | 105 | 18  | 92  | 84  | 24  | -   | -   | 98  |
|                    | B°     | 140 | 149 | 152 | 152 | 135 | -   | -   | 152 |
|                    | C°     | 215 | 192 | 222 | 204 | 199 | -   | -   | 268 |
|                    | D°     | 265 | 259 | 342 | 334 | 240 | -   | -   | 338 |

### Connector weights (in gramms)

| Shell size | Square flange receptacle | Jam nut receptacle | Solder mount receptacle |
|------------|--------------------------|--------------------|-------------------------|
| 08         | 18                       | 29                 | 15                      |
| 10         | 24                       | 37                 | 21                      |
| 12         | 31                       | 50                 | 31                      |
| 14         | 40                       | 58                 | 35                      |
| 16         | 49                       | 72                 | 46                      |
| 18         | 54                       | 79                 | 51                      |
| 20         | 62                       | 87                 | 59                      |
| 22         | 77                       | 108                | 73                      |
| 24         | 88                       | 122                | 86                      |

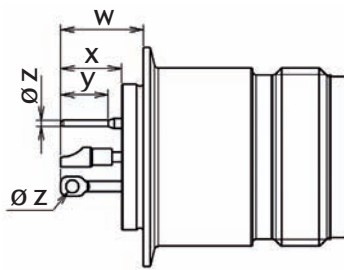
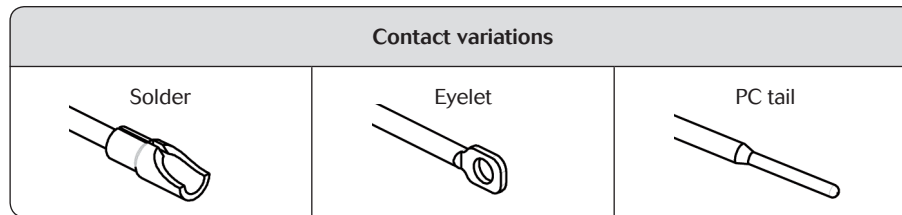
# 8533 Series

## Hermetic Connectors

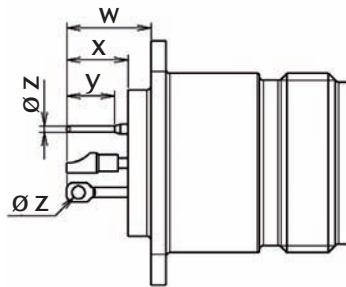


### Contact variations

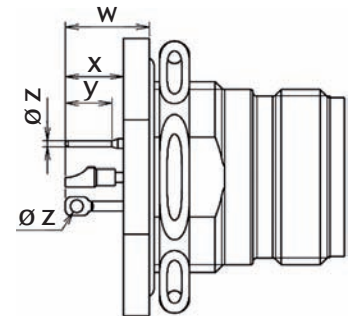
#### Contact variations summary



Type 1: Solder mount receptacle



Type 2: Square flange receptacle



Type 7: Jam nut receptacle

| Type of contact     | Specification                             | Contact size | W Max | X Min | Y Min                | Ø Z Max               | Designation                                |
|---------------------|-------------------------------------------|--------------|-------|-------|----------------------|-----------------------|--------------------------------------------|
| PC tail contacts    | 05                                        | 20           | 8.78  | 4.78  | 4.50                 | 0.65                  | PC tail contact                            |
|                     | 118                                       | 20           | 10.88 | 6.88  | 6.25                 | 0.65                  | Long PC tail contact                       |
| Eyelet contacts     | 105                                       | 20           | 6.98  | 2.98  | 4.05 <sup>+0.2</sup> | 1.25 <sub>-0.15</sub> | Eyelet contact                             |
| Solder cup contacts | Without specification or Specification 22 | 20-16-12     | 7.78  | 2.98  | -                    | -                     | Standard Solder cup contact                |
|                     | 112                                       | 6            | 9.03  | 5.13  | -                    | -                     |                                            |
|                     | 62                                        | 20-16-12     | 7.78  | 2.98  | -                    | -                     | Solder cup contact tin plated on rear part |

Note: All dimensions are in millimeters (mm)





# 8533 Series

## Power & Quadrax Series

### Description

- The utmost solution to combine **high vibrations**, **high temperatures** and **high power supply**: up to 80 Amps continuous rating at 260°C ambient temperature with a 20% space-savings compared with other solutions.
- Two contact sizes - size 6 and size 4 - as well as the possibility to use directly **quadrax contacts** in size 6 cavities layouts.
- Standard strain relief backshell or spacer accessory to adapt any specific backshell.
- Airbus ABS 1340-1343, 1426-1427, 1452 qualified.
- **Hermetic** versions available for through bulkhead applications.
- **Grounded insert** option for optimized quadrax performance.



### Applications

- Electro mechanical actuator power supply, alternator, starter applications.

### Technical features

#### Mechanical

- **Shell:**
  - . nickel plated aluminum (R class),
  - . passivated stainless steel (E class).
- **Grommet and seal:**
  - . silicone elastomer.
- **Insulator:**
  - . thermoplastic.
- **Contact body:**
  - . copper alloy.
- **Contact plating:**
  - . gold over nickel.
- **Contact retention:**
  - . Size 4: 200N
  - . Size 6: 156 N
- **Endurance:**
  - . 500 mating / unmating operation.
- **Vibration & shock:**
  - . according to EN 2997.

#### Electrical

- **Dielectric withstanding:**

| Altitude  | Service   |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |

- **Insulation Resistance:**
  - . 5000 MΩ under 500 Vdc.

- **Max current rating per contact:**

| Contacts size | 6  | 4  |
|---------------|----|----|
| Rating (A)    | 60 | 80 |

- **Contact resistance:**
  - . Initial < 0.4 mΩ.
- **Electrical continuity:**
  - . 5mΩ with RFI shielding.
- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB.

#### Environmental

- **Temperature range:**
  - . -60°C +200°C R class,
  - . -60°C +260°C E class & #6 contact only.
- **Leakage:**
  - . as per 2591-312:
  - Method B differential pressure: 100kPa
  - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt Spray:**
  - . 48 hours (R class),
  - . 500 hours (E class).
- **Fire resistance:**
  - . as per EN 2591-318:
  - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class).
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243





# 8533 Series

## Power & Quadrax Series

### Ordering information

#### Souriau part numbers

|                                                                        |      |   |   |   |    |    |   |   |   |   |
|------------------------------------------------------------------------|------|---|---|---|----|----|---|---|---|---|
| Basic series                                                           | 8533 | 0 | R | S | 20 | 04 | P | N | G | L |
| <b>Shell type:</b>                                                     |      |   |   |   |    |    |   |   |   |   |
| 0: Square flange receptacle                                            |      |   |   |   |    |    |   |   |   |   |
| 3: Plug with RFI shielding                                             |      |   |   |   |    |    |   |   |   |   |
| 7: Jam nut receptacle                                                  |      |   |   |   |    |    |   |   |   |   |
| <b>Shell class:</b>                                                    |      |   |   |   |    |    |   |   |   |   |
| R: Nickel plated aluminum shell (200°C)                                |      |   |   |   |    |    |   |   |   |   |
| E: Stainless steel shell (260°C - except layouts 08-01 & 24-04: 200°C) |      |   |   |   |    |    |   |   |   |   |
| S: With 360° teeth                                                     |      |   |   |   |    |    |   |   |   |   |
| <b>Shell size:</b>                                                     |      |   |   |   |    |    |   |   |   |   |
| 08, 18, 20, 24, 28                                                     |      |   |   |   |    |    |   |   |   |   |
| <b>Contact layout:</b>                                                 |      |   |   |   |    |    |   |   |   |   |
| See page 08                                                            |      |   |   |   |    |    |   |   |   |   |
| <b>Contact type:</b>                                                   |      |   |   |   |    |    |   |   |   |   |
| P: Pin                                                                 |      |   |   |   |    |    |   |   |   |   |
| S: Socket                                                              |      |   |   |   |    |    |   |   |   |   |
| <b>Orientation:</b>                                                    |      |   |   |   |    |    |   |   |   |   |
| N, 6, 7, 8, 9, Y                                                       |      |   |   |   |    |    |   |   |   |   |
| <b>Insert class:</b>                                                   |      |   |   |   |    |    |   |   |   |   |
| None: Not grounded                                                     |      |   |   |   |    |    |   |   |   |   |
| G: Grounded - for Quadrax applications only                            |      |   |   |   |    |    |   |   |   |   |
| <b>Mandatory suffix for shells sizes 18, 20, 24 &amp; 28 :</b>         |      |   |   |   |    |    |   |   |   |   |
| 109: With contact #4 for cable #6 + sealing boot                       |      |   |   |   |    |    |   |   |   |   |
| 115: With contact #4 for cable #8 + sealing boot                       |      |   |   |   |    |    |   |   |   |   |
| 125: With quadrax contact + sealing boot (200°C max)                   |      |   |   |   |    |    |   |   |   |   |
| 126: With backshell, without contact and sealing boot                  |      |   |   |   |    |    |   |   |   |   |
| 136: With contact #6 for cable #6 + sealing boot                       |      |   |   |   |    |    |   |   |   |   |
| 138: With contact #6 for cable #8 + sealing boot                       |      |   |   |   |    |    |   |   |   |   |
| 143: With contact #6 for cable #10/12 + sealing boot                   |      |   |   |   |    |    |   |   |   |   |
| 231: With spacer, without contact and sealing boot                     |      |   |   |   |    |    |   |   |   |   |
| L: Without contact and sealing boot                                    |      |   |   |   |    |    |   |   |   |   |
| <b>Mandatory suffix for layout 08-01 only (200°C) :</b>                |      |   |   |   |    |    |   |   |   |   |
| 165: With quadrax contact + backshell for heatshrink sleeving          |      |   |   |   |    |    |   |   |   |   |
| L165: Without quadrax contact, with backshell for heatshrink sleeving  |      |   |   |   |    |    |   |   |   |   |

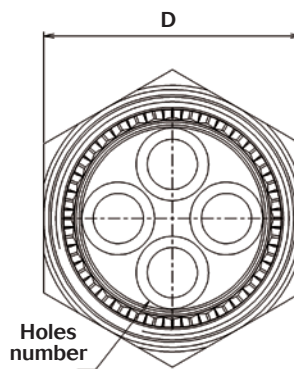
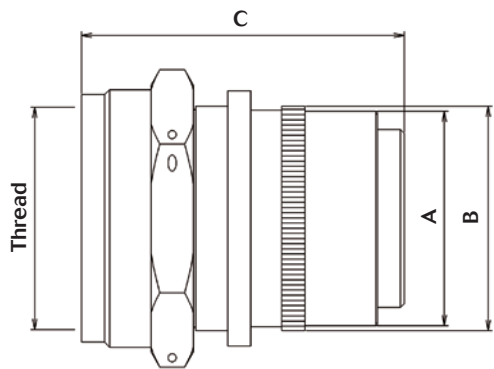
# 8533 Series

## Power & Quadrax Series



### Backshells

#### Strain relief backshell



| Layout code | Material        | Souriau Part number | Mass max (g) | A <sup>±0.1</sup> | B Max | C <sup>±0.12</sup>    | D     | Holes number | Thread Class 2B | Coupling torque N.m |
|-------------|-----------------|---------------------|--------------|-------------------|-------|-----------------------|-------|--------------|-----------------|---------------------|
| 18-02       | Aluminum        | 85338342            | 40           | 24.90             | 29.45 | 41.78 <sup>±1.2</sup> | 31.62 | 2            | 1.0625-18 UNEF  | 16                  |
|             | Stainless steel | 85338343            | 75           |                   |       |                       |       |              |                 |                     |
| 20-04       | Aluminum        | 85338250            | 40           | 27.72             | 30.12 | 41.78 <sup>±1.2</sup> | 33.21 | 4            | 1.1875-18 UNEF  | 20                  |
|             | Stainless steel | 85338281            | 73           |                   |       |                       |       |              |                 |                     |
| 24-04       | Aluminum        | 85338223            | 53           | 33.71             | 37.26 | 48.95 Max             | 45    | 4            | 1.4375-18 UNEF  | 26                  |
|             | Stainless steel | Consult us          | -            |                   |       |                       |       |              |                 |                     |
| 28-06       | Aluminum        | 85338245            | 82           | 39.7              | 44.4  | 41.78                 | 47.49 | 6            | 1.7500-18 UNS   | 29                  |
|             | Stainless steel | 85338288            | 146          |                   |       |                       |       |              |                 |                     |

Note: All dimensions are in millimeters (mm)

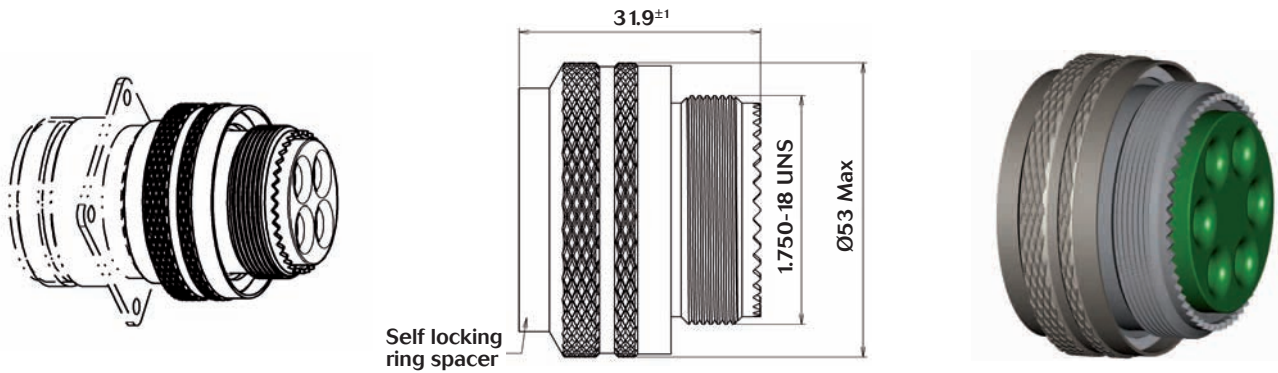


# 8533 Series

## Power & Quadrax Series

### Spacer

#### Stainless steel spacer



| Layout code  | Material        | Souriau Part number | Mass max (g) |
|--------------|-----------------|---------------------|--------------|
| Spacer 28-06 | Stainless steel | 85338392            | 140          |

Note: All dimensions are in millimeters (mm)



# 8534 Series

## Scoop Proof Fire Wall Connectors

### Description

- **Stainless steel screw coupling connector designed for use in aviation engine harsh environments:**
  - . high vibration resistant
  - . high temperature resistant (260° C)
  - . fire proof (1100° C)
- **Scoop proof design to enable blind mating.**
- **Qualified to Rolls-Royce ESC11 standard, and per PrEN4067 standard project.**
- **Fully interchangeable and intermateable with ESC16 / 8536 connectors (integrated backshell version).**
- **Large array of crimp contact:**
  - . (same as for 8533 Series)
  - . standard size 12, 16 and 20 contacts
  - . thermocouple size 12, 16 and 20 contacts
- **Fuel tank version available upon request.**



### Technical features

#### Mechanical

- **Shell:**
  - . Passivated stainless steel.
- **Grommet and seal:**
  - . Silicone elastomer.
- **Insulator:**
  - . Thermoplastic.
- **Contact body:**
  - . Copper alloy.
- **Contact plating:**
  - . Gold over nickel.
- **Contact retention:**
  - . Size 20: 90 N
  - . Size 16: 111 N
  - . Size 12: 133 N
- **Mating cycles:**
  - . 500 mating / unmating operations.
- **Vibration & shock:**
  - . According to JES290-083: 41 grms (2 x 8 hours)

#### Electrical

- **Dielectric withstanding:**

| Altitude  | Service   |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |

- **Insulation Resistance:**
  - . 5000 MΩ under 500 Vdc.

- **Max current rating per contact:**

| Contacts size | 20  | 16 | 12 |
|---------------|-----|----|----|
| Rating (A)    | 7.5 | 13 | 23 |

- **Contact resistance:** 1 mΩ.
- **Electrical continuity:**
  - . 5mΩ with RFI shielding (6SE class).
- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB.

#### Environmental

- **Temperature range:**
  - . - 65°C +260°C
- **Leakage:**
  - . as per 2591-312:
  - Method B differential pressure: 100kPa
  - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt Spray:**
  - . 500 hours.
- **Fire resistance:**
  - . as per EN 2591-318:
  - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class).
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243



# 8534 Series

## Scoop Proof Fire Wall Connectors

### Ordering information

#### Souriau part numbers

| Basic Series                                                                                                                                                                     | 8534 | 6SE | 14 | 15 | S | N |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----|----|---|---|
| <b>Shell type:</b><br>0SE: Stainless steel square flange receptacle<br>6SE: Stainless steel plug with RFI screening ring<br>6KE: Stainless steel plug without RFI screening ring |      |     |    |    |   |   |
| <b>Shell size:</b> 14, 16, 18, 20, 22, 24                                                                                                                                        |      |     |    |    |   |   |
| <b>Contact layout:</b> See page 10                                                                                                                                               |      |     |    |    |   |   |
| <b>Contact type:</b><br>P: Pin      A: Connector supplied less pin contact<br>S: Socket    B: Connector supplied less socket contact                                             |      |     |    |    |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9 (see page 37)                                                                                                                                  |      |     |    |    |   |   |

#### ESC11 Qualified products

| Basic Series                                                                                                                                                                           | ESC11 | SE | 6 | 14 | 15 | P | N | 0 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|---|----|----|---|---|---|
| <b>Shell class:</b><br>KE: 260°C stainless steel: standard receptacle; plug without RFI screening ring<br>SE: 260°C stainless steel: standard receptacle; plug with RFI screening ring |       |    |   |    |    |   |   |   |
| <b>Shell type:</b><br>0: Square flange receptacle<br>6: Plug                                                                                                                           |       |    |   |    |    |   |   |   |
| <b>Shell size:</b> 14, 16, 18, 20, 22, 24                                                                                                                                              |       |    |   |    |    |   |   |   |
| <b>Contact layout:</b> See page 10                                                                                                                                                     |       |    |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin<br>S: Socket                                                                                                                                            |       |    |   |    |    |   |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9 (see page 37)                                                                                                                                        |       |    |   |    |    |   |   |   |
| <b>Variant identifier:</b><br>0: Delivered without contact                                                                                                                             |       |    |   |    |    |   |   |   |

### Cross reference list Souriau versus PrEN4067

| PrEN4067        | Souriau       | Short description                                                              |
|-----------------|---------------|--------------------------------------------------------------------------------|
| EN4067SE6●●●●B□ | 85346SE●●●●B□ | Plug with RFI screening ring for socket contacts, delivered without contact    |
| EN4067SE6●●●●F□ | 85346SE●●●●S□ | Plug with RFI screening ring for socket contacts, delivered with contacts      |
| EN4067SE6●●●●A□ | 85346SE●●●●A□ | Plug with RFI screening ring for pin contacts, delivered without contact       |
| EN4067SE6●●●●M□ | 85346SE●●●●P□ | Plug with RFI screening ring for pin contacts, delivered with contacts         |
| EN4067SE0●●●●B□ | 85340SE●●●●B□ | Square flange receptacle for socket contacts, delivered without contact        |
| EN4067SE0●●●●F□ | 85340SE●●●●S□ | Square flange receptacle for socket contacts, delivered with contacts          |
| EN4067SE0●●●●A□ | 85340SE●●●●A□ | Square flange receptacle for pin contacts, delivered without contact           |
| EN4067SE0●●●●M□ | 85340SE●●●●P□ | Square flange receptacle for pin contacts, delivered with contacts             |
| EN4067KE6●●●●B□ | 85346KE●●●●B□ | Plug without RFI screening ring for socket contacts, delivered without contact |
| EN4067KE6●●●●F□ | 85346KE●●●●S□ | Plug without RFI screening ring for socket contacts, delivered with contacts   |
| EN4067KE6●●●●A□ | 85346KE●●●●A□ | Plug without RFI screening ring for pin contacts, delivered without contact    |
| EN4067KE6●●●●M□ | 85346KE●●●●P□ | Plug without RFI screening ring for pin contacts, delivered with contacts      |

●●●● Shell size and contact layout    □ Orientation

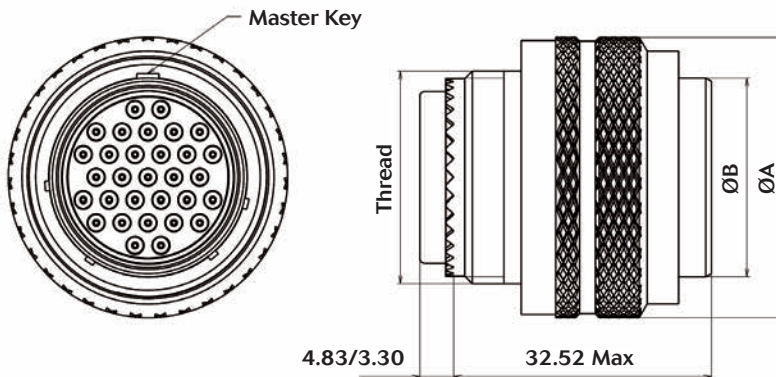
# 8534 Series

## Scoop Proof Fire Wall Connectors



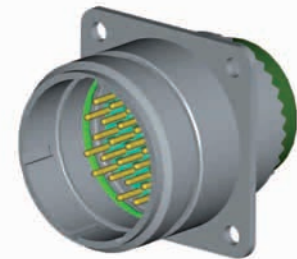
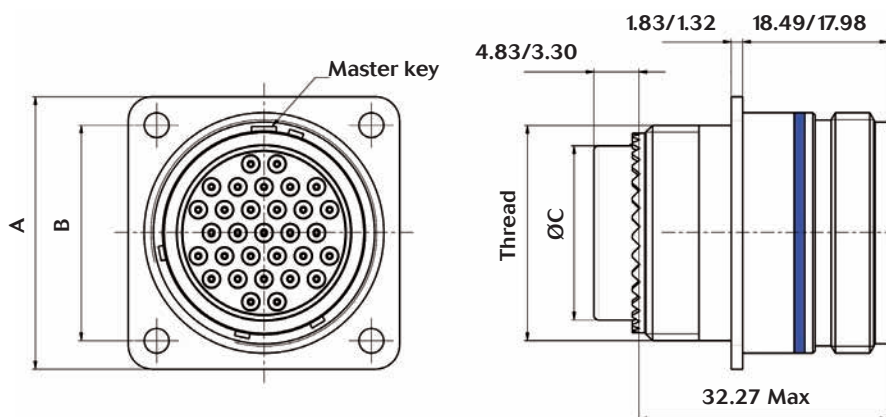
### Dimensions

#### Plug



| Shell size      | 14                  | 16                  | 18                   | 20                   | 22                   | 24                   |
|-----------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| Thread Class 2A | 0.875-20<br>UNEF 2A | 1.000-20<br>UNEF 2A | 1.0625-18<br>UNEF 2A | 1.1875-18<br>UNEF 2A | 1.3125-18<br>UNEF 2A | 1.4375-18<br>UNEF 2A |
| ØA Max          | 31.24               | 34.42               | 37.34                | 41.91                | 44.07                | 47.24                |
| ØB Max          | 19.43               | 22.66               | 25.35                | 28.52                | 31.70                | 34.87                |

#### Square Flange Receptacle



| Shell size         | 14                  | 16                  | 18                   | 20                   | 22                   | 24                   |
|--------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| A <sup>±0.13</sup> | 28.56               | 31.75               | 34.11                | 36.50                | 39.67                | 43.26                |
| B                  | 23.01               | 24.61               | 26.97                | 29.36                | 31.75                | 34.92                |
| Thread Class 2A    | 0.875-20<br>UNEF 2A | 1.000-20<br>UNEF 2A | 1.0625-18<br>UNEF 2A | 1.1875-18<br>UNEF 2A | 1.3125-18<br>UNEF 2A | 1.4375-18<br>UNEF 2A |
| ØC Max             | 16.89               | 20.07               | 22.07                | 25.25                | 28.42                | 31.60                |

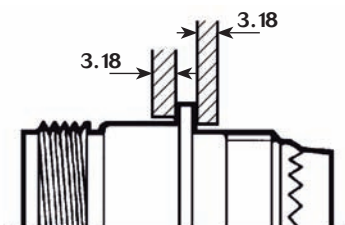
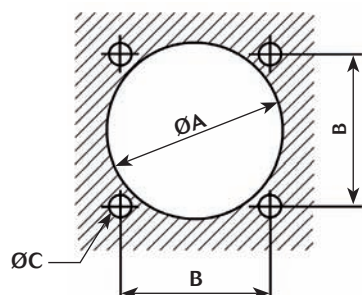
Note: All dimensions are in millimeters (mm)

# 8534 Series

## Scoop Proof Fire Wall Connectors



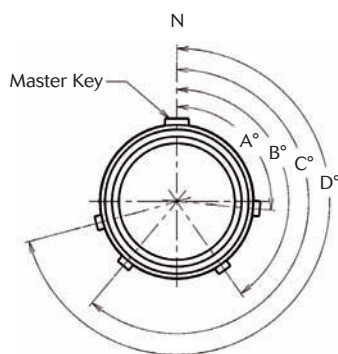
### Panel Cut Out (Receptacle)



| Shell size | A min | B     | C    |
|------------|-------|-------|------|
| 14         | 24.90 | 23.01 | 3.20 |
| 16         | 28.30 | 24.61 |      |
| 18         | 31.10 | 26.97 |      |
| 20         | 34.50 | 39.36 |      |
| 22         | 37.50 | 31.75 | 3.80 |
| 24         | 40.60 | 34.92 |      |

## Orientation

### Orientation



Front face view of plug

| Shell size  | Angles | N   | 6   | 7   | 8   | 9   |
|-------------|--------|-----|-----|-----|-----|-----|
| 14          | A°     | 95  | 101 | 18  | 26  | 120 |
|             | B°     | 145 | 168 | 136 | 156 | 161 |
|             | C°     | 220 | 211 | 208 | 208 | 225 |
|             | D°     | 255 | 342 | 268 | 276 | 336 |
| 16          | A°     | 95  | 101 | 18  | -   | -   |
|             | B°     | 145 | 168 | 136 |     |     |
|             | C°     | 220 | 211 | 208 |     |     |
|             | D°     | 255 | 342 | 268 |     |     |
| 18          | A°     | 95  | 101 | -   | -   | -   |
|             | B°     | 145 | 168 |     |     |     |
|             | C°     | 220 | 211 |     |     |     |
|             | D°     | 255 | 342 |     |     |     |
| 20, 22 & 24 | A°     | 95  | 101 | 18  | 26  | -   |
|             | B°     | 145 | 168 | 136 | 156 |     |
|             | C°     | 220 | 211 | 208 | 208 |     |
|             | D°     | 255 | 342 | 268 | 276 |     |

## Connector weights

| Mass max. (g) less contact |                            |                               |                          |
|----------------------------|----------------------------|-------------------------------|--------------------------|
| Shell size                 | Plug with grounding spring | Plug without grounding spring | Receptacle Square flange |
| 14                         | 62                         | 59                            | 40                       |
| 16                         | 72                         | 67                            | 51                       |
| 18                         | 82                         | 78                            | 61                       |
| 20                         | 104                        | 100                           | 79                       |
| 22                         | 112                        | 108                           | 88                       |
| 24                         | 124                        | 120                           | 98                       |

Mass of crimp contacts: see p.46.



# 8535/8536 Series

## Integrated Backshell Connectors



### Description

- **Stainless steel screw coupling connector designed for use in aviation engine harsh environments:**
  - High vibration resistance
  - High temperature resistance (260° C)
  - Fire proof (1100° C)
- **Integrated backshell for compact and light weight applications, with the possibility to have a full scoop proof connection (8536 Series / ESC16 Series).**
- **Qualified to Rolls-Royce ESC15 (8535 Series) and ESC16 (8536 Series) standard, and per the on going new EN2997 issue.**
- **Fully interchangeable and intermateable:**
  - 8535 Series with BACC 63 CM-CN, EN2997, MIL-C-83723 Series III & ESC10 connectors
  - 8536 Series with ESC11 connectors
- **Large array of crimp contacts:** (same as for 8533 Series)
  - Standard size 12, 16 and 20 contacts
  - Thermocouple size 12, 16 and 20 contacts

### Technical features

#### Mechanical

- **Shell:**
  - . Passivated stainless steel.
- **Grommet and seal:**
  - . Silicone elastomer.
- **Insulator:**
  - . Thermoplastic.
- **Contact body:**
  - . Copper Alloy.
- **Contact plating:**
  - . Gold Over Nickel.
- **Contact retention:**
  - . Size 20: 90 N
  - . Size 16: 111 N
  - . Size 12: 133 N
- **Mating cycles:**
  - . 500 mating / unmating operation.
- **Vibration & shock:**
  - . According to JES290-083: 41 grms, 2x 8 hours (ES class)
  - . According to JES290-102: 35 grms, 60 hours (KV class)

#### Electrical

- **Dielectric withstanding:**

| Altitude   | Service   |
|------------|-----------|
| Alt ground | 1500 Vrms |
| 15 000 m   | 600 Vrms  |
| 21 000 m   | 400 Vrms  |
| 33 000 m   | 200 Vrms  |

- **Insulation Resistance:**
  - . 5000 MΩ at 500 Vdc.
- **Max current rating per contact:**
  - . Size 20: 7.5 A
  - . Size 16: 13 A
  - . Size 12: 23 A
- **Contact resistance:**
  - . 1 mΩ.
- **Electrical continuity:**
  - . 5mΩ with RFI shielding.
- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB.

#### Environmental

- **Temperature range:**
  - . - 60°C +260°C
- **Leakage:**
  - . as per 2591-312:
  - Method B differential pressure: 100kPa
  - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt Spray:**
  - . 500 hours.
- **Fire resistance:**
  - . as per EN 2591-318:
  - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class).
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243





# 8535/8536 Series

## Integrated Backshell Connectors

### Ordering information

#### Souriau part numbers

|                                                |      |   |    |    |    |   |   |   |
|------------------------------------------------|------|---|----|----|----|---|---|---|
| Basic Series                                   | 8535 | 3 | ES | 18 | 14 | S | N | L |
| 8535: ESC15 / EN2997 type                      |      |   |    |    |    |   |   |   |
| 8536: ESC16 scoop proof type                   |      |   |    |    |    |   |   |   |
| Shell type:                                    |      |   |    |    |    |   |   |   |
| 0: Square flange receptacle without clinch nut |      |   |    |    |    |   |   |   |
| 3: Plug with RFI screening ring                |      |   |    |    |    |   |   |   |
| 4: Plug without RFI screening ring             |      |   |    |    |    |   |   |   |
| 5: Square flange receptacle with clinch nut    |      |   |    |    |    |   |   |   |
| Connector class:                               |      |   |    |    |    |   |   |   |
| ES: 260°C firewall                             |      |   |    |    |    |   |   |   |
| KV: 260°C firewall high vibration              |      |   |    |    |    |   |   |   |
| Shell size:                                    |      |   |    |    |    |   |   |   |
| 08, 10, 12, 14, 16, 18, 20, 22, 24, 28         |      |   |    |    |    |   |   |   |
| Contact layout See page 08                     |      |   |    |    |    |   |   |   |
| Contact type:                                  |      |   |    |    |    |   |   |   |
| P: Pin                                         |      |   |    |    |    |   |   |   |
| S: Socket                                      |      |   |    |    |    |   |   |   |
| Orientation:                                   |      |   |    |    |    |   |   |   |
| N, 6, 7, 8, 9 (see page 42)                    |      |   |    |    |    |   |   |   |
| Specification:                                 |      |   |    |    |    |   |   |   |
| L: Delivered without contacts                  |      |   |    |    |    |   |   |   |

#### ESC15/ESC16 Qualified product

|                                                               |       |    |   |    |    |   |   |   |
|---------------------------------------------------------------|-------|----|---|----|----|---|---|---|
| Basic Series                                                  | ESC15 | KE | 7 | 18 | 14 | S | N | 0 |
| ESC15                                                         |       |    |   |    |    |   |   |   |
| ESC16: scoop proof                                            |       |    |   |    |    |   |   |   |
| Connector class:                                              |       |    |   |    |    |   |   |   |
| KE: 260°C firewall without RFI screening ring                 |       |    |   |    |    |   |   |   |
| SE: 260°C firewall with RFI screening ring (for plug only)    |       |    |   |    |    |   |   |   |
| KV: 260°C firewall high vibration, without RFI screening ring |       |    |   |    |    |   |   |   |
| Shell type:                                                   |       |    |   |    |    |   |   |   |
| 2: Square flange receptacle without clinch nut                |       |    |   |    |    |   |   |   |
| 4: Square flange receptacle with clinch nut                   |       |    |   |    |    |   |   |   |
| 7: Plug                                                       |       |    |   |    |    |   |   |   |
| Shell size:                                                   |       |    |   |    |    |   |   |   |
| 08, 10, 12, 14, 16, 18, 20, 22, 24, 28                        |       |    |   |    |    |   |   |   |
| Contact layout See page 08                                    |       |    |   |    |    |   |   |   |
| Contact type:                                                 |       |    |   |    |    |   |   |   |
| P: Pin                                                        |       |    |   |    |    |   |   |   |
| S: Socket                                                     |       |    |   |    |    |   |   |   |
| Orientation:                                                  |       |    |   |    |    |   |   |   |
| N, 6, 7, 8, 9 (see page 42)                                   |       |    |   |    |    |   |   |   |
| Variant identifier:                                           |       |    |   |    |    |   |   |   |
| 0: Delivered without contact (class KE & SE)                  |       |    |   |    |    |   |   |   |
| V: Delivered without contact (class KV)                       |       |    |   |    |    |   |   |   |

# 8535/8536 Series

## Integrated Backshell Connectors



### EN2997 Qualified product (qualification on going)

|                                                                 |        |    |   |    |    |   |   |
|-----------------------------------------------------------------|--------|----|---|----|----|---|---|
| Basic Series                                                    | EN2997 | SE | A | 18 | 14 | F | N |
| <b>Connector class:</b>                                         |        |    |   |    |    |   |   |
| SE: Stainless steel 260°C firewall plug with RFI screening ring |        |    |   |    |    |   |   |
| <b>Shell type:</b>                                              |        |    |   |    |    |   |   |
| A: Square flange receptacle with integrated backshell           |        |    |   |    |    |   |   |
| C: Plug with integrated backshell                               |        |    |   |    |    |   |   |
| D: Square flange receptacle with clinch nut                     |        |    |   |    |    |   |   |
| <b>Shell size:</b>                                              |        |    |   |    |    |   |   |
| 08, 10, 12, 14, 16, 18, 20, 22, 24, 28                          |        |    |   |    |    |   |   |
| <b>Contact layout:</b>                                          |        |    |   |    |    |   |   |
| See page 08                                                     |        |    |   |    |    |   |   |
| <b>Contact type:</b>                                            |        |    |   |    |    |   |   |
| M: Pin                                                          |        |    |   |    |    |   |   |
| A: Delivered without male contact                               |        |    |   |    |    |   |   |
| F: Socket                                                       |        |    |   |    |    |   |   |
| B: Delivered without female contact                             |        |    |   |    |    |   |   |
| <b>Orientation:</b>                                             |        |    |   |    |    |   |   |
| N, 6, 7, 8, 9 (see page 42)                                     |        |    |   |    |    |   |   |

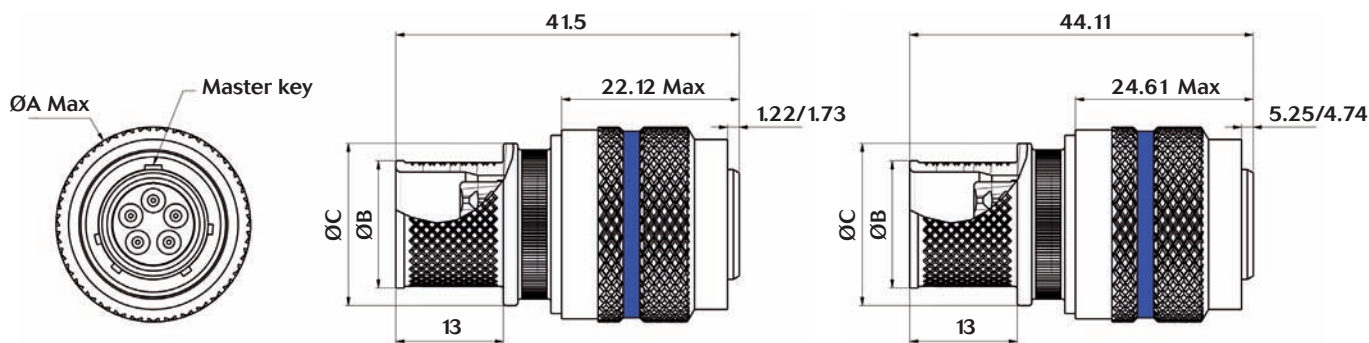
## Dimensions

### Plug (Shell type 3 and 4) 8535/ESC15 / EN2997 C model 8536/ESC16

Front face view

8535/ESC15

8536/ESC16



| Shell size   | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ØA Max       | 21.30 | 24.89 | 29.59 | 31.24 | 34.42 | 37.34 | 41.91 | 44.07 | 47.24 | 55.24 |
| ØB $\pm 0.1$ | 12.10 | 15.32 | 18.27 | 21.45 | 24.62 | 26.04 | 29.22 | 32.40 | 35.47 | 41.92 |
| ØC $\pm 0.1$ | 18.70 | 19.60 | 22.00 | 26.10 | 28.60 | 29.80 | 33.60 | 36.70 | 42.10 | 46.60 |

Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

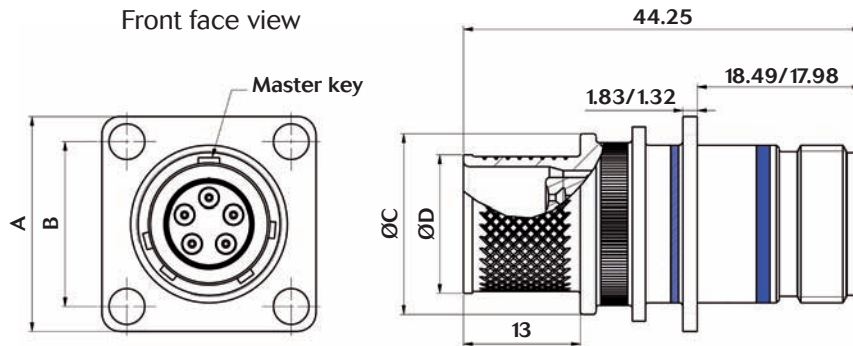
Note: All dimensions are in millimeters (mm)

# 8535/8536 Series

## Integrated Backshell Connectors



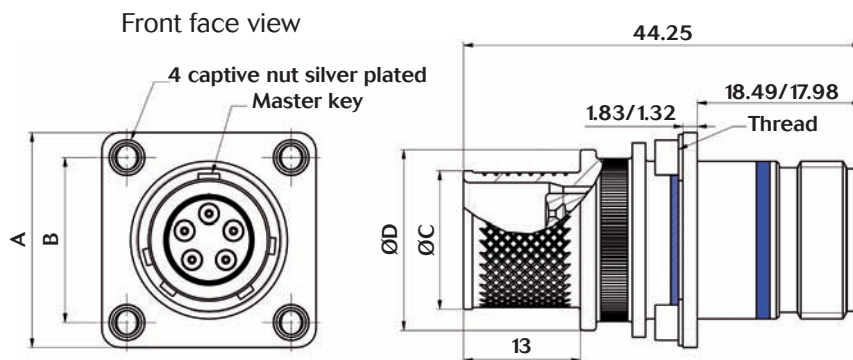
### Square Flange Receptacle Without Clinch Nut (Shell Type 0) 8535/ESC15 / EN2997 A model 8536/ESC16



| Shell size                | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| $A_{\pm 0.13}$            | 20.62 | 23.80 | 26.19 | 28.57 | 31.75 | 34.11 | 36.50 | 39.67 | 43.26 | 50.80 |
| $B_{\pm 0.13}$            | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92 | 39.67 |
| $\varnothing C_{\pm 0.1}$ | 12.10 | 15.32 | 18.27 | 21.45 | 24.62 | 26.04 | 29.22 | 32.40 | 35.57 | 41.92 |
| $\varnothing D_{\pm 0.1}$ | 18.70 | 19.60 | 22.00 | 26.10 | 28.60 | 29.80 | 33.60 | 36.70 | 42.10 | 46.60 |

Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

### Square Flange Receptacle With Clinch Nut (Shell Type 5) 8535/ESC15 / EN2997 D model 8536/ESC16



| Shell size                | 08           | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24           | 28    |
|---------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|--------------|-------|
| $A_{\pm 0.13}$            | 20.62        | 23.80 | 26.19 | 28.57 | 31.75 | 34.11 | 36.50 | 39.67 | 43.26        | 50.80 |
| $B_{\pm 0.13}$            | 15.09        | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92        | 39.67 |
| $\varnothing C_{\pm 0.1}$ | 12.10        | 15.32 | 18.27 | 21.45 | 24.62 | 26.04 | 29.22 | 32.40 | 35.57        | 41.92 |
| $\varnothing D_{\pm 0.1}$ | 18.70        | 19.60 | 22.00 | 26.10 | 28.60 | 29.80 | 33.60 | 36.70 | 42.10        | 46.60 |
| Thread<br>BS1580 Class 3B | 0.1120-40UNC |       |       |       |       |       |       |       | 0.1380-32UNC |       |

Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

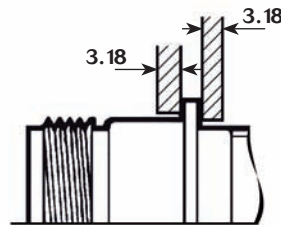
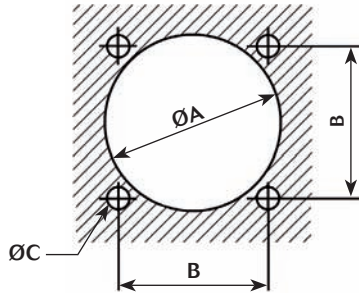
Note: All dimensions are in millimeters (mm)

# 8535/8536 Series

## Integrated Backshell Connectors



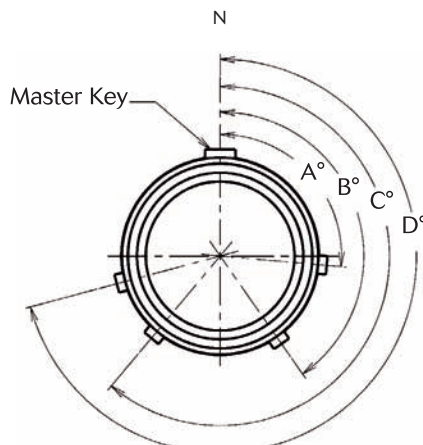
### Panel Cut Out (Receptacle Shell Type 0 and 5)



| Shell size | A min | B     | C    |
|------------|-------|-------|------|
| 08         | 15.80 | 15.09 | 3.20 |
| 10         | 18.70 | 18.26 |      |
| 12         | 23.40 | 20.62 |      |
| 14         | 24.90 | 23.01 |      |
| 16         | 28.30 | 24.61 |      |
| 18         | 31.10 | 26.97 |      |
| 20         | 34.50 | 39.36 |      |
| 22         | 37.50 | 31.75 | 3.80 |
| 24         | 40.60 | 34.92 |      |
| 28         | 48.00 | 39.67 |      |

## Orientation

### Orientation



Front face view of plug

#### 8535/ESC15 / EN2997

| Shell size | Angles | N   | 6   | 7   | 8   | 9   |
|------------|--------|-----|-----|-----|-----|-----|
| 08 & 10    | A°     | 105 | 102 | 80  | 35  | 64  |
|            | B°     | 140 | 132 | 118 | 140 | 155 |
|            | C°     | 215 | 248 | 230 | 205 | 234 |
|            | D°     | 265 | 320 | 312 | 275 | 304 |
| 12 to 28   | A°     | 105 | 18  | 92  | 84  | 24  |
|            | B°     | 140 | 149 | 152 | 152 | 135 |
|            | C°     | 215 | 192 | 222 | 204 | 199 |
|            | D°     | 265 | 259 | 342 | 334 | 240 |

#### 8536/ESC16

| Shell size | Angles | N   | 6   | 7   | 8   | 9   |
|------------|--------|-----|-----|-----|-----|-----|
| 08 & 10    | A°     | 95  | 40  | 48  | 85  | 56  |
|            | B°     | 145 | 112 | 130 | 155 | 126 |
|            | C°     | 220 | 228 | 242 | 220 | 205 |
|            | D°     | 255 | 258 | 280 | 325 | 296 |
| 12 to 28   | A°     | 95  | 101 | 18  | 26  | 120 |
|            | B°     | 145 | 168 | 138 | 156 | 161 |
|            | C°     | 220 | 211 | 208 | 208 | 225 |
|            | D°     | 255 | 342 | 268 | 276 | 336 |



# 8535/8536 Series

## Integrated Backshell Connectors

### Connector weights

| Mass max. (g) less contact |                 |                 |
|----------------------------|-----------------|-----------------|
| Shell size                 | Square flange   | Plug            |
|                            | Stainless steel | Stainless steel |
| 8                          | 25              | 45              |
| 10                         | 40              | 62              |
| 12                         | 48              | 71              |
| 14                         | 60              | 85              |
| 16                         | 70              | 100             |
| 18                         | 81              | 113             |
| 20                         | 89              | 125             |
| 22                         | 101             | 141             |
| 24                         | 110             | 157             |
| 28                         | 135             | 192             |

Mass of crimp contacts: see p.46.



853 Series

EN2997/ESC Qualified - Fire Wall Connectors

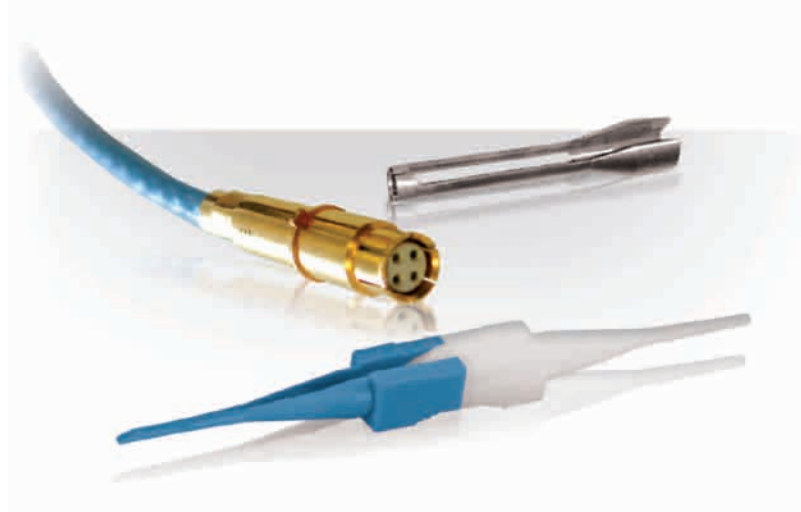
# Common Section

|                                      |    |
|--------------------------------------|----|
| ■ Introduction .....                 | 46 |
| ■ Contacts:                          |    |
| Signal & power crimps contacts ..... | 46 |
| Thermocouple contacts .....          | 47 |
| #8 Quadrax contacts .....            | 48 |
| Contact ordering information .....   | 48 |
| ■ Filler plugs .....                 | 49 |
| ■ Sealing boots .....                | 49 |
| ■ Tooling:                           |    |
| Crimping tools .....                 | 50 |
| Pneumatic tools .....                | 50 |
| Insertion and extraction tools ..... | 51 |
| ■ Protective caps .....              | 52 |
| ■ Dummy receptacle .....             | 53 |
| ■ Coordinates information .....      | 54 |



# 853 Series

## Common Section



## Introduction

- Souriau's fire wall contacts offering covers a **wide range** of performances within the scope of **high temperatures** and **high vibrations** constraints.
- Each type has been qualified and validated by either major qualification organizations or major aerospace users:
  - Size 12, 16 & 20 signal contacts:  
**EN3155 and ESC30 qualified**
  - Size 12, 16 & 20 thermocouple contacts:  
**EN3155 and ESC30 qualified**
- Souriau also provides any tool or accessory that are necessary either for harnessing (crimping tool, insertion and extraction tool,...) or for test benches (dummy receptacles,...)

## Contacts

### Signal & power crimps contacts

| Class           | Contact size | Type         | Part numbers  |                | Code          |       | Admissible wire section |           | External Ø over insulator |      | Mass (g) |        |
|-----------------|--------------|--------------|---------------|----------------|---------------|-------|-------------------------|-----------|---------------------------|------|----------|--------|
|                 |              |              | Pin           | Socket         | Color bands   | Dot   | AWG                     | mm²       | Min.                      | Max. | Pin      | Socket |
| 175°C and 200°C | 20           | Standard     | 8526-1348     | 8526-1344 900  | Red/red       |       | 24-20                   | 0.25-0.60 | 0.85                      | 2.10 | 0.24     | 0.29   |
|                 |              | Small barrel | 8525-7256 900 | 8525-7750 900  | Red/green     |       | 22-26                   | 0.15-0.40 | 0.85                      | 2.10 | 0.24     | 0.29   |
|                 |              | Large barrel | 8522-2349 A   | 8520-292       | Red/brown     |       | 24-18                   | 0.25-1    | 0.85                      | 2.10 | 0.24     | 0.29   |
|                 | 16           | Standard     | 8526-1349     | 8526-1346A 900 | Blue/blue     |       | 20-16                   | 0.60-1.20 | 1.20                      | 2.70 | 0.53     | 0.59   |
|                 |              | Small barrel | 8526-4175     | 8526-4176      | Blue/brown    |       | 24-18                   | 0.25-1    | 1.20                      | 2.70 | 0.53     | 0.59   |
|                 |              | Large barrel | 8522-6179 A   | 8522-6180B 900 | Blue/white    |       | 18-14                   | 1-2       | 1.20                      | 2.70 | 0.53     | 0.59   |
|                 | 12           | Standard     | 8526-1350     | 8526-1347A 900 | Yellow/yellow |       | 16-12                   | 1.20-3    | 1.90                      | 4.01 | 1.15     | 1.28   |
|                 |              | Small barrel | 8526-5041     | 8526-5591A 900 | Yellow/brown  |       | 24-18                   | 0.25-1    | 1.90                      | 4.01 | 1.15     | 1.28   |
|                 |              | Large barrel | 8526-4136 900 | 8526-4138A 900 | Yellow/brown  |       |                         | 3-4       | 1.90                      | 4.01 | 1.15     | 1.28   |
|                 | 4            | Small barrel | 8533-8202     | 8533-8171      | Blue/green    |       | 8-6                     | 9-14      | 6.71                      | 7.41 | 7.3      | 8.5    |
|                 |              | Standard     | 8533-8201     | 8533-8120      | Blue/blue     |       | 4                       | 22        | 6.71                      | 7.41 | 7.3      | 8.5    |
| 260°C           | 20           | Standard     | 8533-1000 900 | 8533-1011 900  | Red/red       | White | 24-20                   | 0.25-0.60 | 0.85                      | 2.10 | 0.24     | 0.29   |
|                 |              | Large barrel | 8533-1002 900 | 8533-1012 900  | Red/brown     | White | 24-18                   | 0.25-1    | 0.85                      | 2.10 | 0.24     | 0.29   |
|                 |              | x2 crimping  | 8533-1019 900 | 8533-1018 900  | Red/green     | White | 22                      | 0.40      | -                         | 1.25 | 0.24     | 0.29   |
|                 | 16           | Standard     | 8533-1004 900 | 8533-1005 900  | Blue/blue     | White | 20-16                   | 0.60-1.20 | 1.20                      | 2.70 | 0.53     | 0.59   |
|                 |              | Small barrel | 8533-1008 900 | 8533-1009 900  | Blue/brown    | White | 24-18                   | 0.25-1    | 1.20                      | 2.70 | 0.53     | 0.59   |
|                 |              | Large barrel | 8533-1006 900 | 8533-1007 900  | Blue/white    | White | 18-14                   | 1-2       | 1.20                      | 2.70 | 0.53     | 0.59   |
|                 | 12           | Standard     | 8533-1035 900 | 8533-1036 900  | Yellow/yellow | White | 14-12                   | 2-3       | 1.90                      | 4.01 | 1.15     | 1.28   |
|                 |              | Large barrel | 8533-1014 900 | 8533-1015 900  | Yellow/brown  | White |                         | 3-4       | 1.90                      | 4.01 | 1.15     | 1.28   |
| 200°C and 260°C | 6            | Standard     | 8533-8246     | 8533-8247      | Green/green   |       | 6                       | 14        | 5.30                      | 5.70 | 3.6      | 4.8    |
|                 |              | Small barrel | 8533-8272     | 8533-8273      | Green/red     |       | 8                       | 9         | 5.30                      | 5.70 | 3.6      | 4.8    |
|                 |              | Small barrel | 8533-8248     | 8533-8249      | Green/brown   |       | 10-12                   | 5-3       | 5.30                      | 5.70 | 3.6      | 4.8    |

# 853 Series

## Common Section



### Thermocouple contacts (-65°C to +260°C)

#### Chromel - Pin contacts (non magnetic)

| Contact size | Type         | Part numbers | Code               |               | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|--------------|--------------------|---------------|-------------------------|-----------|---------------------------|------|
|              |              |              | Color bands        | Dot           | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-875     | Red/red            | Yellow/white  | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-875 A   | Brown/orange/green |               |                         |           |                           |      |
|              | Large barrel | 8522-3761    |                    | Yellow/yellow | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-881     | Green/brown/violet | Yellow        | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-402     | Blue/blue          | Yellow        | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |

#### Chromel - Socket contacts (non magnetic)

| Contact size | Type         | Part numbers   | Code               |               | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|----------------|--------------------|---------------|-------------------------|-----------|---------------------------|------|
|              |              |                | Color bands        | Dot           | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-877 900   | Red/red            | Yellow/white  | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-877 A900  | Brown/yellow/brown |               |                         |           |                           |      |
|              | Large barrel | 8522-3770      |                    | Yellow/yellow | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-883 900   | Green/red/red      | Yellow        | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-403 900   | Blue/blue          | Yellow        |                         |           |                           |      |
|              | Small barrel | 8526-5571 A900 | Blue/red           | Yellow        | 24-18                   | 0.25-1    | 1.20                      | 2.70 |

#### Alumel - Pin contacts (magnetic)

| Contact size | Type         | Part numbers | Code                |             | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|--------------|---------------------|-------------|-------------------------|-----------|---------------------------|------|
|              |              |              | Color bands         | Dot         | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-876     | Red/red             | Black/white | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-876 A   | Brown/orange/yellow |             |                         |           |                           |      |
|              | Large barrel | 8522-3760    |                     | Black/black | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-882     | Green/brown/blue    | Black       | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-401     | Blue/blue           | Black       | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |

#### Alumel - Socket contacts (magnetic)

| Contact size | Type         | Part numbers   | Code               |             | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|----------------|--------------------|-------------|-------------------------|-----------|---------------------------|------|
|              |              |                | Color bands        | Dot         | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-878 900   | Red/red            | Black/white | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-878A 900  | Brown/yellow/black |             |                         |           |                           |      |
|              | Large barrel | 8522-3771      |                    | Black/black | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-884 900   | Green/red/brown    | Black       | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-404 900   | Blue/blue          | Black       |                         |           |                           |      |
|              | Small barrel | 8526-5576A 900 | Blue/red           | Black       | 24-18                   | 0.25-1    | 1.20                      | 2.70 |

# 853 Series

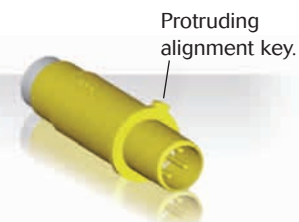
## Common Section



### #8 Quadrax contacts

| Contact type       |        | Part numbers | Impedance | Release | T° Max |
|--------------------|--------|--------------|-----------|---------|--------|
| PC tail L= 4.45 mm | Pin    | ETH1-1137A   | 100Ω      | Rear    | 200°C  |
| Crimp              | Pin    | ETH1-1126A   | 100Ω      | Rear    | 200°C  |
|                    | Socket | ETH1-1127A   | 100Ω      | Rear    | 200°C  |

Crimp contacts are unsealed. Sealing boots are available. All contacts delivered without boot.



## Contact ordering information

### EN3155

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |     |   |    |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|---|----|----|
| Basic Series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EN3155 | 004 | M | 20 | 20 |
| <b>Contact style</b> (see opposite table):<br><b>004:</b> Standard 260°C class male<br><b>005:</b> Standard 260°C class female<br><b>018:</b> Standard 200°C class male<br><b>019:</b> Standard 200°C class female<br><b>044:</b> Double crimping 260°C class male<br><b>045:</b> Double crimping 260°C class female<br><b>054:</b> Thermocouple Ni Al male (alumel)<br><b>055:</b> Thermocouple Ni Al female (alumel)<br><b>056:</b> Thermocouple Ni Cr male (chromel)<br><b>057:</b> Thermocouple Ni Cr female (chromel) |        |     |   |    |    |
| <b>Contact type:</b><br>M: Male<br>F: Female                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |     |   |    |    |
| <b>Contact size:</b><br>#20, #16, #12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |     |   |    |    |
| <b>Barrel size:</b><br>#22, #20, #18, #16, #14, #12                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |     |   |    |    |

| Contact Size | Barrel Size              |                          |                                                      |                          |    |                          |
|--------------|--------------------------|--------------------------|------------------------------------------------------|--------------------------|----|--------------------------|
|              | 22                       | 20                       | 18                                                   | 16                       | 14 | 12                       |
| 20           | 018<br>019<br>044<br>045 | 004<br>005<br>018<br>019 | 004<br>005<br>018<br>019                             |                          |    |                          |
| 16           |                          | 054<br>055<br>056<br>057 | 004<br>005<br>018<br>019<br>054<br>055<br>056<br>057 | 004<br>005<br>018<br>019 |    |                          |
| 12           |                          |                          | 018<br>019                                           |                          |    | 004<br>005<br>018<br>019 |

### ESC30

|                                                                                             |       |   |    |    |
|---------------------------------------------------------------------------------------------|-------|---|----|----|
| Basic Series                                                                                | ESC30 | P | 20 | NA |
| <b>Contact type:</b><br>P: Male<br>S: Female                                                |       |   |    |    |
| <b>Contact material:</b><br>#20, #16, #12                                                   |       |   |    |    |
| <b>Contact material :</b><br>NA: Nickel aluminum<br>NC: Nickel chromium<br>BC: Copper alloy |       |   |    |    |

# 853 Series

## Common Section

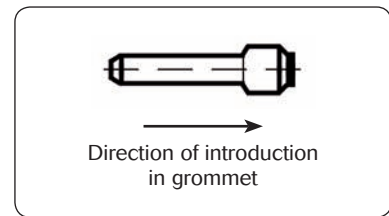


### Filler plugs

#### Filler plugs

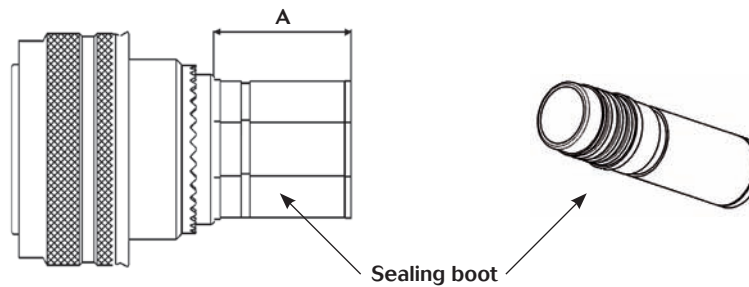
These filler plugs are installed at the rear of unwired contacts to maintain connector sealing.

| Contact size | Part numbers       | Colors |
|--------------|--------------------|--------|
| 20           | 8522-389A          | red    |
| 16           | 8522-390A          | blue   |
| 12           | 8522-391A          | yellow |
| 6            | Please, consult us |        |
| 4            | 8533-8253          | blue   |



### Sealing boot

#### Sealing boot ABS 0992 (for power & quadrax contacts - Class 260°C)



| Contact size | Cable AWG           | Cable material    | SOURIAU Part Numbers | A Max |
|--------------|---------------------|-------------------|----------------------|-------|
| 4            | 4                   | Aluminum          | 8533-8164            | 17    |
|              | 6 to 8              | Aluminum          | 8533-8191            | 17    |
|              | 4                   | Copper            | 8599-4591            | 9     |
|              | 6 to 8              | Copper            | 8533-8163            | 9     |
| 6            | 6                   | Aluminum & Copper | 8533-8296            | 24    |
|              | 8                   | Aluminum & Copper | 8533-8236            | 24    |
|              | 10 to 12            | Aluminum & Copper | 8533-8287            | 24    |
|              | Quad ABS0973 / 0974 | Copper            | 8533-8236            | 24    |

Note: All dimensions are in millimeters (mm)

# 853 Series

## Common Section



## Tooling

### Crimping tools

| Contact size | Wires |       | Part numbers                                      |                                                                |                    |
|--------------|-------|-------|---------------------------------------------------|----------------------------------------------------------------|--------------------|
|              | mm²   | AWG   | Crimping pliers                                   | Locator                                                        | Die set            |
| 20           | 0.93  | 18    | 8365 (M22520/1-01)<br>or<br>8476-01 (M22520/1-01) | 8635-02 (M22520/1-02)<br>or<br>8476-02 (M22520/1-02)           | -                  |
|              | 0.60  | 20    |                                                   |                                                                |                    |
|              | 0.38  | 22    |                                                   |                                                                |                    |
|              | 0.21  | 24    |                                                   |                                                                |                    |
| 16           | 1.91  | 14    | 8365 (M22520/1-01)                                | 8365-02 (M22520/1-02)                                          |                    |
|              | 1.34  | 16    |                                                   |                                                                |                    |
|              | 0.93  | 18    |                                                   |                                                                |                    |
|              | 0.60  | 20    |                                                   |                                                                |                    |
|              | 0.38  | 22    |                                                   |                                                                |                    |
| 12           | 3.18  | 12    | 8365 (M22520/1-01)                                | 8365-02 (M22520/1-02)                                          |                    |
|              | 1.91  | 14    |                                                   |                                                                |                    |
| 6            | 14    | 6     | M22520/23-01                                      | 8530-2036 (for male contact)<br>8530-2037 (for female contact) | M22520/23-02       |
|              | 9     | 8     | M22520/23-01                                      | 8530-2036 (for male contact)<br>8530-2037 (for female contact) | M22520/23-02       |
|              | 5-3   | 10-12 | M22520/23-01                                      | 8530-2036 (for male contact)<br>8530-2037 (for female contact) | WA23-112DA (23-02) |
| 4            | 9-14  | 8-6   | M22520/23-01                                      | 8533-8141 (23-11)                                              | M22520/23-02       |
|              | 22    | 4     | M22520/23-01                                      | 8533-8141 (23-11)                                              | M22520/23-04       |

| Contact size |               | Part numbers    |             |
|--------------|---------------|-----------------|-------------|
|              |               | Crimping pliers | Locator     |
| Quadrax      | Inner contact | M22520/2-01     | K709        |
|              | Outer contact | M22520/5-01     | M22520/5-45 |

### Pneumatic tools



Pneumatic Crimping tool (M22520/23-01)



Die Set (M22520/23-02)



Locator

# 853 Series

## Common Section



### Tooling

#### Insertion and extraction tools

##### Insertion and extraction of wired contacts

| Contact size | Part numbers | Material - Color         |
|--------------|--------------|--------------------------|
| 20           | M81969/14-11 | Plastic - white / red    |
| 16           | M81969/14-03 | Plastic - white / blue   |
| 12           | M81969/14-04 | Plastic - white / yellow |
| 06           | M81969/14-06 | Plastic - white / red    |
|              | 8660-197     | Metallic                 |
| 04           | M81969/14-07 | Plastic - white / blue   |
|              | 8533-8175    | Metallic                 |

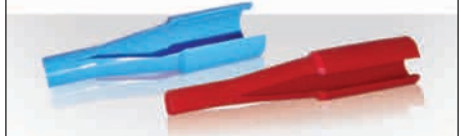
Disposable plastic tool:

- colored tip for insertion
- white tip for extraction

Plastic extraction tool for #20, 16 & 12



Plastic extraction tool for #06 & 04



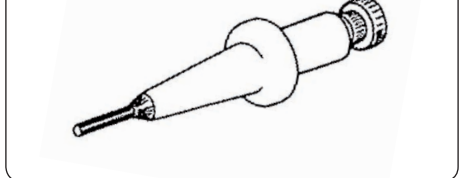
Metallic extraction tool



##### Extraction of unwired contacts

| Contact size | Part numbers |
|--------------|--------------|
| 20           | 8522-56      |
| 16           | 8522-57      |
| 12           | 8522-58      |

Extraction tool



### Cable stripping

| Size                                  | Contact | 20  |    | 16  |    |    | 12 |
|---------------------------------------|---------|-----|----|-----|----|----|----|
|                                       | Barrel  | 20  | 18 | 16  | 14 | 28 | 12 |
| Stripped length of cable mm $\pm 0.5$ |         | 4.5 |    | 6.8 |    |    |    |

# 853 Series

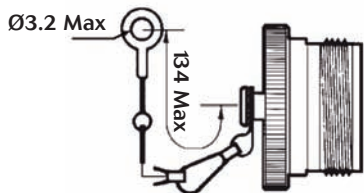
## Common Section



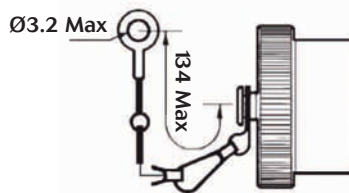
### Protective caps

#### Plug & receptacle aluminum cap with chain

Cap for plug



Cap for receptacle



Basic Series

83723

21

R

14

Cap type:

21: Cap for receptacle

22: Cap for plug

Plating\*:

R: Nickel

W: Olive green cadmium

A: Black anodized

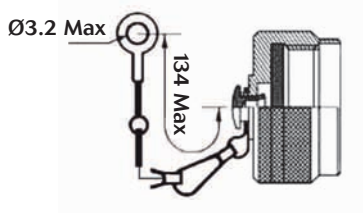
Shell size\*:

08, 10, 12, 14, 16, 18, 20, 22, 24

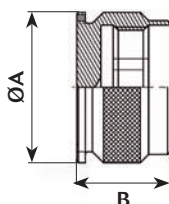
\* Not developed for each size and plating, please consult us.

#### Receptacle stainless steel cap

C Type



N Type



| Shell size | A Max | B Max |
|------------|-------|-------|
| 12         | 27.35 | 16.90 |
| 14         | 28.95 | 16.90 |

Basic Series

8533

KE

3

C

14

Class:

KE: 260°C

Cap for receptable

Type:

C: With chain

N: Without chain

Shell size:

12, 14, 16, 20 (for other size, please consul us)

Note: All dimensions are in millimeters (mm)

# 853 Series

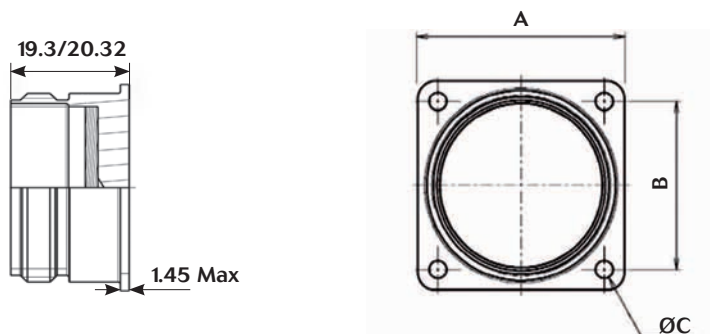
## Common Section



### Dummy receptacle

#### Stainless steel version

##### Dimensions



| Shells  | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A Max   | 20.75 | 23.93 | 26.32 | 28.71 | 31.88 | 34.24 | 36.63 | 39.80 | 43.39 | 50.93 |
| B       | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92 | 39.67 |
| Ø C Max | 3.30  |       |       |       |       |       |       |       | 3.91  |       |

##### Ordering information

|                                        |      |    |   |    |
|----------------------------------------|------|----|---|----|
| Basic Series                           | 8533 | KE | 5 | 10 |
| Class:                                 |      |    |   |    |
| KE: 260°C                              |      |    |   |    |
| 5: Dummy receptacle                    |      |    |   |    |
| Shell size:                            |      |    |   |    |
| 08, 10, 12, 14, 16, 18, 20, 22, 24, 28 |      |    |   |    |



# 853 Series

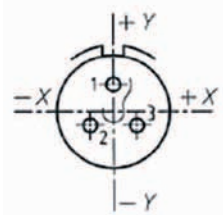
## Common Section



### Coordinates information

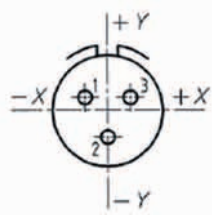
08

03



| Contact | X      | y      |
|---------|--------|--------|
| 1       | 0      | + 1.91 |
| 2       | - 1.65 | - 0.97 |
| 3       | + 1.65 | - 0.97 |

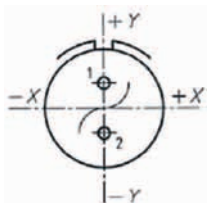
98



| Contact | X      | y      |
|---------|--------|--------|
| 1       | - 1.65 | + 0.94 |
| 2       | 0      | - 1.91 |
| 3       | + 1.65 | + 0.94 |

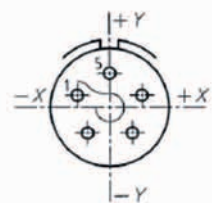
10

02



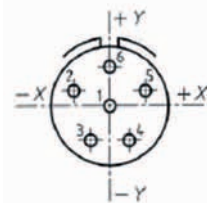
| Contact | X | y      |
|---------|---|--------|
| 1       | 0 | + 2.11 |
| 2       | 0 | - 2.11 |

05



| Contact | X      | y      |
|---------|--------|--------|
| 1       | - 2.72 | + 1.04 |
| 2       | - 1.88 | - 2.16 |
| 3       | + 1.88 | - 2.16 |
| 4       | + 2.72 | + 1.04 |
| 5       | 0      | + 2.90 |

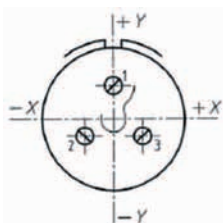
06



| Contact | X      | y      |
|---------|--------|--------|
| 1       | 0      | 0      |
| 2       | - 3.05 | + 1.27 |
| 3       | - 1.65 | - 2.87 |
| 4       | + 1.65 | - 2.87 |
| 5       | + 3.05 | + 1.27 |
| 6       | 0      | + 3.30 |

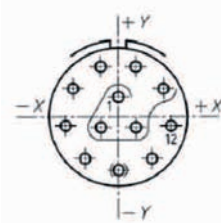
12

03



| Contact | X      | y      |
|---------|--------|--------|
| 1       | 0      | + 3.05 |
| 2       | - 2.64 | - 1.52 |
| 3       | + 2.64 | - 1.52 |

12



| Contact | X      | y      |
|---------|--------|--------|
| 1       | 0      | + 1.88 |
| 2       | - 1.65 | - 0.99 |
| 3       | + 1.65 | - 0.99 |
| 4       | + 4.24 | + 2.67 |
| 5       | + 1.65 | + 4.75 |
| 6       | - 1.65 | + 4.75 |

| Contact | X      | y      |
|---------|--------|--------|
| 7       | - 4.24 | + 2.67 |
| 8       | - 4.95 | - 0.84 |
| 9       | - 3.15 | - 3.91 |
| 10      | 0      | - 5.00 |
| 11      | + 3.15 | - 3.91 |
| 12      | + 4.95 | - 0.84 |

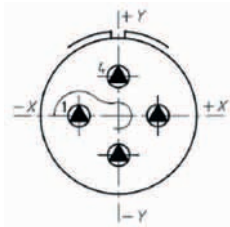
# 853 Series

## Common Section



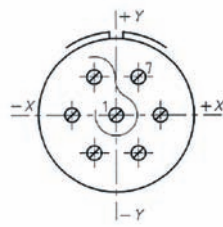
14

04



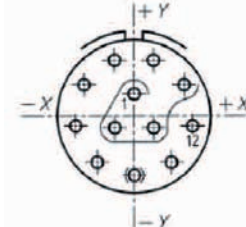
| Contact | X     | y     |
|---------|-------|-------|
| 1       | -4.29 | 0     |
| 2       | 0     | -4.29 |
| 3       | +4.29 | 0     |
| 4       | 0     | +4.29 |

07



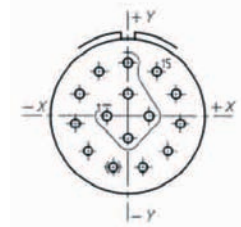
| Contact | X     | y     |
|---------|-------|-------|
| 1       | 0     | 0     |
| 2       | -2.41 | +4.17 |
| 3       | -4.83 | 0     |
| 4       | -2.41 | -4.17 |
| 5       | +2.41 | -4.17 |
| 6       | +4.83 | 0     |
| 7       | +2.41 | +4.17 |

12



| Contact | X     | y     |
|---------|-------|-------|
| 1       | 0     | +2.29 |
| 2       | -1.98 | -1.14 |
| 3       | +1.98 | -1.14 |
| 4       | +4.45 | +2.57 |
| 5       | +1.65 | +5.61 |
| 6       | -1.65 | +5.61 |
| 7       | -4.45 | +2.57 |
| 8       | -5.69 | -1.37 |
| 9       | -4.04 | -4.24 |
| 10      | 0     | -5.13 |
| 11      | +4.04 | -4.24 |
| 12      | +5.69 | -1.37 |

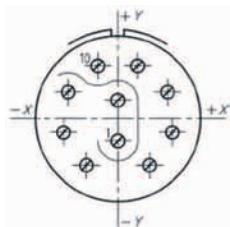
15



| Contact | X     | y     |
|---------|-------|-------|
| 1       | -2.34 | 0     |
| 2       | 0     | -2.44 |
| 3       | +2.34 | 0     |
| 4       | 0     | +2.44 |
| 5       | 0     | +5.87 |
| 6       | -3.18 | +4.93 |
| 7       | -5.33 | +2.44 |
| 8       | -5.79 | -0.83 |
| 9       | -4.42 | -3.84 |
| 10      | -1.65 | -5.61 |
| 11      | +1.65 | -5.61 |
| 12      | +4.42 | -3.84 |
| 13      | +5.79 | -0.83 |
| 14      | +5.33 | +2.44 |
| 15      | +3.18 | +4.93 |

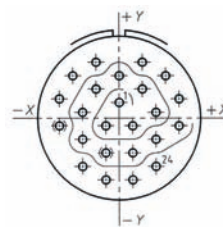
16

10



| Contact | X     | y     |
|---------|-------|-------|
| 1       | 0     | -2.67 |
| 2       | 0     | +2.16 |
| 3       | -6.02 | +3.15 |
| 4       | -6.58 | -1.65 |
| 5       | -3.81 | -5.64 |
| 6       | +3.81 | -5.64 |
| 7       | +6.58 | -1.65 |
| 8       | +6.02 | +3.15 |
| 9       | +2.41 | +6.38 |
| 10      | -2.41 | +6.38 |

24



| Contact | X     | y     |
|---------|-------|-------|
| 1       | 0     | +1.91 |
| 2       | -1.65 | -0.94 |
| 3       | +1.65 | -0.94 |
| 4       | +4.50 | +0.71 |
| 5       | +2.84 | +3.56 |
| 6       | 0     | +5.18 |
| 7       | -2.84 | +3.56 |
| 8       | -4.50 | +0.71 |
| 9       | -4.50 | -2.49 |
| 10      | -1.65 | -4.24 |
| 11      | +1.65 | -4.24 |
| 12      | +4.50 | -2.59 |

| Contact | X     | y     |
|---------|-------|-------|
| 13      | +7.34 | -0.94 |
| 14      | +7.34 | +2.36 |
| 15      | +5.69 | +5.18 |
| 16      | +2.84 | +6.83 |
| 17      | -2.84 | +6.83 |
| 18      | -5.69 | +5.18 |
| 19      | -7.34 | +2.36 |
| 20      | -7.34 | -0.94 |
| 21      | -4.50 | -5.89 |
| 22      | -1.65 | -7.54 |
| 23      | +1.65 | -7.54 |
| 24      | +4.50 | -5.89 |

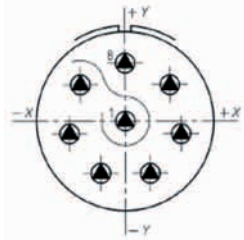
# 853 Series

## Common Section



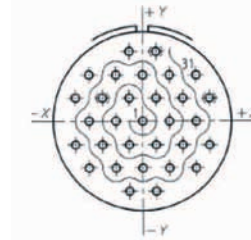
18

08



| Contact | X     | Y     |
|---------|-------|-------|
| 1       | 0     | 0     |
| 2       | -5.56 | +4.45 |
| 3       | -6.93 | -1.57 |
| 4       | -3.07 | -6.40 |
| 5       | +3.07 | -6.40 |
| 6       | +6.93 | -1.57 |
| 7       | +5.56 | +4.45 |
| 8       | 0     | +7.11 |

31

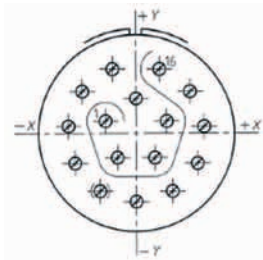


| Contact | X     | Y     |
|---------|-------|-------|
| 1       | 0     | 0     |
| 2       | -1.65 | +2.87 |
| 3       | -3.30 | 0     |
| 4       | -1.65 | -2.87 |
| 5       | +1.65 | -2.87 |
| 6       | +3.30 | 0     |
| 7       | +1.65 | +2.87 |
| 8       | 0     | +5.74 |
| 9       | -3.30 | +5.74 |
| 10      | -4.95 | +2.87 |
| 11      | -6.60 | 0     |

| Contact | X     | Y     |
|---------|-------|-------|
| 12      | -4.95 | -2.87 |
| 13      | -3.30 | -5.74 |
| 14      | 0     | -5.74 |
| 15      | +3.30 | -5.74 |
| 16      | +4.95 | -2.87 |
| 17      | +6.60 | 0     |
| 18      | +4.95 | +2.87 |
| 19      | +3.30 | +5.74 |
| 20      | +1.65 | +8.61 |
| 21      | -1.65 | +8.61 |
| 22      | -6.60 | +5.74 |
| 23      | -8.26 | +2.87 |
| 24      | -8.26 | -2.87 |
| 25      | -6.60 | -5.74 |
| 26      | -1.65 | -8.61 |
| 27      | +1.65 | -8.61 |
| 28      | +6.60 | -5.74 |
| 29      | +8.26 | -2.87 |
| 30      | +8.26 | +2.87 |
| 31      | +6.60 | +5.74 |

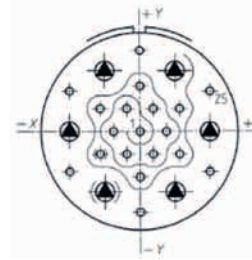
20

16



| Contact | X     | Y     |
|---------|-------|-------|
| 1       | -3.91 | +1.57 |
| 2       | -2.39 | -3.10 |
| 3       | +2.39 | -3.10 |
| 4       | +3.91 | +1.57 |
| 5       | 0     | +4.45 |
| 6       | -3.00 | +8.18 |
| 7       | -6.88 | +5.36 |
| 8       | -8.66 | +0.91 |
| 9       | -7.82 | -3.81 |
| 10      | -4.62 | -7.37 |
| 11      | 0     | -8.71 |
| 12      | +4.62 | -7.37 |
| 13      | +7.82 | -3.81 |
| 14      | +8.66 | +0.91 |
| 15      | +6.88 | +5.36 |
| 16      | +3.00 | +8.18 |

25



| Contact | X     | Y     |
|---------|-------|-------|
| 1       | 0     | 0     |
| 2       | -1.68 | +2.90 |
| 3       | -3.35 | 0     |
| 4       | -1.68 | -2.90 |
| 5       | +1.68 | -2.90 |
| 6       | +3.35 | 0     |
| 7       | +1.68 | +2.90 |
| 8       | 0     | +5.79 |

| Contact | X     | Y      |
|---------|-------|--------|
| 9       | -5.03 | +2.90  |
| 10      | -5.03 | -2.90  |
| 11      | 0     | -5.79  |
| 12      | +5.03 | -2.90  |
| 13      | +5.03 | +2.90  |
| 14      | +4.45 | +7.70  |
| 15      | 0     | +10.26 |
| 16      | -4.45 | +7.70  |
| 17      | -8.89 | +5.13  |
| 18      | -8.89 | 0      |
| 19      | -8.89 | -5.13  |
| 20      | -4.45 | -7.70  |
| 21      | 0     | -10.26 |
| 22      | +4.45 | -7.70  |
| 23      | +8.89 | -5.13  |
| 24      | +8.89 | 0      |
| 25      | +8.89 | +5.13  |

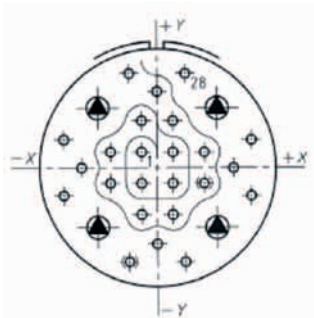
# 853 Series

## Common Section



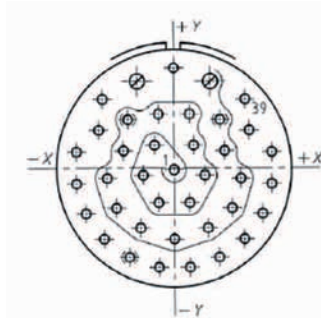
20

28



| Contact | X     | Y     |
|---------|-------|-------|
| 1       | -1.65 | +1.65 |
| 2       | -1.65 | -1.65 |
| 3       | +1.65 | -1.65 |
| 4       | +1.65 | +1.65 |
| 5       | -1.65 | +4.95 |
| 6       | -4.95 | +1.65 |
| 7       | -4.95 | -1.65 |
| 8       | -1.65 | -4.95 |
| 9       | +1.65 | -4.95 |
| 10      | +4.95 | -1.65 |
| 11      | +4.95 | +1.65 |
| 12      | +1.65 | +4.95 |
| 13      | 0     | +8.03 |
| 14      | -2.95 | +9.91 |
| 15      | -6.30 | +6.30 |
| 16      | -9.91 | +2.95 |
| 17      | -8.03 | 0     |
| 18      | -9.91 | -2.95 |
| 19      | -6.30 | -6.30 |
| 20      | -2.95 | -9.91 |
| 21      | 0     | -8.03 |
| 22      | +2.95 | -9.91 |
| 23      | +6.30 | -6.30 |
| 24      | +9.91 | -2.95 |
| 25      | +8.03 | 0     |
| 26      | +9.91 | +2.95 |
| 27      | +6.30 | +6.30 |
| 28      | +2.95 | +9.91 |

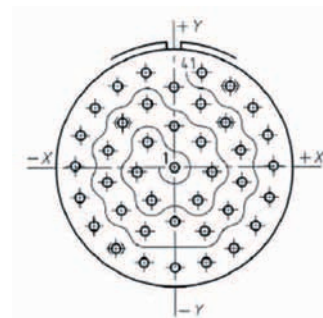
39



| Contact | X     | Y     |
|---------|-------|-------|
| 1       | 0     | -0.15 |
| 2       | -2.08 | +2.41 |
| 3       | -3.28 | -0.71 |
| 4       | -1.65 | -3.61 |
| 5       | +1.65 | -3.61 |
| 6       | +3.28 | -0.71 |
| 7       | +2.08 | +2.41 |
| 8       | +1.65 | +5.69 |
| 9       | -1.65 | +5.69 |
| 10      | -4.90 | +5.11 |
| 11      | -5.38 | +1.83 |
| 12      | -7.11 | -1.02 |
| 13      | -6.15 | -4.17 |
| 14      | -3.58 | -6.27 |
| 15      | 0     | -7.42 |
| 16      | +3.58 | -6.27 |
| 17      | +6.15 | -4.17 |
| 18      | +7.11 | -1.02 |
| 19      | +5.38 | +1.83 |
| 20      | +4.90 | +5.11 |

| Contact | X      | Y      |
|---------|--------|--------|
| 21      | +3.89  | +9.14  |
| 22      | 0      | +10.54 |
| 23      | -3.89  | +9.14  |
| 24      | -7.59  | +7.26  |
| 25      | -8.00  | +3.99  |
| 26      | -10.39 | +1.70  |
| 27      | -10.39 | -1.60  |
| 28      | -9.40  | -4.75  |
| 29      | -7.47  | -7.42  |
| 30      | -4.78  | -9.35  |
| 31      | -1.65  | -10.41 |
| 32      | +1.65  | -10.41 |
| 33      | +4.78  | -9.35  |
| 34      | +7.47  | -7.42  |
| 35      | +9.40  | -4.75  |
| 36      | +10.39 | -1.60  |
| 37      | +10.39 | +1.70  |
| 38      | +8.00  | +3.99  |
| 39      | +7.59  | +7.26  |

41



| Contact | X     | Y     |
|---------|-------|-------|
| 1       | 0     | 0     |
| 2       | -2.82 | +2.67 |
| 3       | -3.96 | -0.46 |
| 4       | -2.44 | -3.40 |
| 5       | +2.44 | -3.40 |
| 6       | +3.96 | -0.46 |
| 7       | +2.82 | +2.67 |
| 8       | 0     | +4.37 |
| 9       | -2.82 | +6.73 |
| 10      | -5.44 | +4.72 |
| 11      | -6.99 | +1.80 |
| 12      | -7.11 | -1.50 |
| 13      | -5.64 | -4.47 |
| 14      | -3.15 | -6.65 |
| 15      | 0     | -5.64 |
| 16      | +3.15 | -6.65 |
| 17      | +5.64 | -4.47 |
| 18      | +7.11 | -1.50 |
| 19      | +6.99 | +1.80 |
| 20      | +5.44 | +4.72 |
| 21      | +2.82 | +6.73 |

| Contact | X      | Y      |
|---------|--------|--------|
| 22      | 0      | +8.51  |
| 23      | -2.95  | +10.03 |
| 24      | -5.94  | +8.61  |
| 25      | -8.33  | +6.32  |
| 26      | -9.88  | +3.40  |
| 27      | -10.46 | +0.15  |
| 28      | -10.01 | -3.12  |
| 29      | -8.53  | -6.10  |
| 30      | -6.22  | -8.46  |
| 31      | -3.28  | -9.96  |
| 32      | 0      | -10.49 |
| 33      | +3.28  | -9.96  |
| 34      | +6.22  | -8.46  |
| 35      | +8.53  | -6.10  |
| 36      | +10.01 | -3.12  |
| 37      | +10.46 | +0.15  |
| 38      | +9.88  | +3.40  |
| 39      | +8.33  | +6.32  |
| 40      | +5.94  | +8.61  |
| 41      | +2.95  | +10.03 |

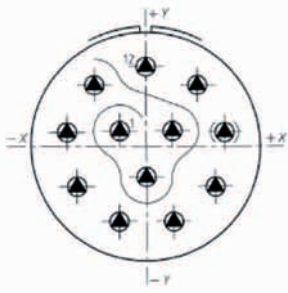
# 853 Series

## Common Section



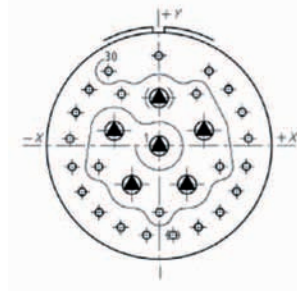
22

12



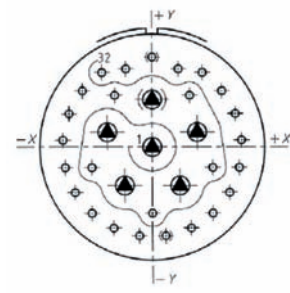
| Contact | X     | y      |
|---------|-------|--------|
| 1       | -3.33 | +1.91  |
| 2       | 0     | -3.84  |
| 3       | +3.33 | +1.91  |
| 4       | -6.50 | +7.75  |
| 5       | -9.96 | +1.75  |
| 6       | -8.76 | +5.05  |
| 7       | -3.45 | -9.50  |
| 8       | +3.45 | -9.50  |
| 9       | +8.76 | -5.05  |
| 10      | +9.96 | +1.75  |
| 11      | +6.50 | +7.75  |
| 12      | 0     | +10.11 |

30



| Contact | X      | y     |
|---------|--------|-------|
| 1       | 0      | 0     |
| 2       | -5.79  | +1.91 |
| 3       | -7.80  | -2.62 |
| 4       | -3.56  | -4.93 |
| 5       | 0      | -8.48 |
| 6       | +3.56  | -4.93 |
| 7       | +7.80  | -2.62 |
| 8       | +5.79  | +1.91 |
| 9       | +4.83  | +6.63 |
| 10      | 0      | +6.10 |
| 11      | -4.83  | +6.63 |
| 12      | -8.99  | +7.21 |
| 13      | -10.72 | +4.27 |
| 14      | -11.51 | +0.89 |
| 15      | -11.23 | -2.62 |

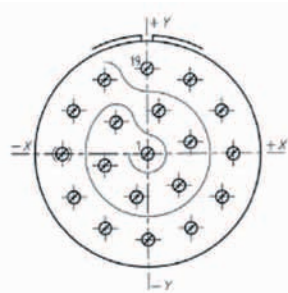
32



| Contact | X      | y     |
|---------|--------|-------|
| 1       | 0      | 0     |
| 2       | -5.79  | +1.91 |
| 3       | -7.80  | -2.62 |
| 4       | -3.56  | -4.93 |
| 5       | 0      | -8.48 |
| 6       | +3.56  | -4.93 |
| 7       | +7.80  | -2.62 |
| 8       | +5.79  | +1.91 |
| 9       | +4.83  | +6.63 |
| 10      | 0      | +6.10 |
| 11      | -4.83  | +6.63 |
| 12      | -8.99  | +7.21 |
| 13      | -10.72 | +4.27 |
| 14      | -11.51 | +0.89 |
| 15      | -11.23 | -2.62 |
| 16      | -9.96  | -5.82 |

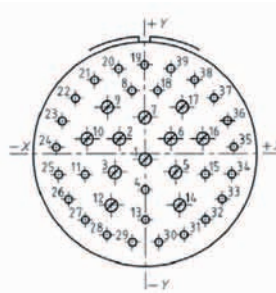
| Contact | X      | y      |
|---------|--------|--------|
| 17      | -7.80  | -8.48  |
| 18      | -5.00  | -10.39 |
| 19      | -1.70  | -11.40 |
| 20      | +1.70  | -11.40 |
| 21      | +5.00  | -10.39 |
| 22      | +7.80  | -8.48  |
| 23      | +9.96  | -5.82  |
| 24      | +11.23 | -2.62  |
| 25      | +11.51 | +0.89  |
| 26      | +10.72 | +4.27  |
| 27      | +8.99  | +7.21  |
| 28      | +6.48  | +9.55  |
| 29      | +3.38  | +11.02 |
| 30      | 0      | +11.53 |
| 31      | -3.38  | +11.02 |
| 32      | -6.48  | +9.55  |

19



| Contact | X      | y      |
|---------|--------|--------|
| 1       | 0      | 0      |
| 2       | -4.01  | +4.01  |
| 3       | -5.49  | -1.45  |
| 4       | -1.45  | -5.49  |
| 5       | +4.01  | -4.01  |
| 6       | +5.49  | +1.45  |
| 7       | +1.45  | +5.49  |
| 8       | -5.49  | +9.50  |
| 9       | -9.50  | +5.49  |
| 10      | -10.97 | 0      |
| 11      | -9.50  | -5.49  |
| 12      | -5.49  | -9.50  |
| 13      | 0      | -10.97 |
| 14      | +5.49  | -9.50  |
| 15      | +9.50  | -5.49  |
| 16      | +10.97 | 0      |
| 17      | +9.50  | +5.49  |
| 18      | +5.49  | +9.50  |
| 19      | 0      | +10.97 |

39



| Contact | X     | y      |
|---------|-------|--------|
| 1       | 0     | -0.71  |
| 2       | -3.33 | +1.96  |
| 3       | -3.94 | -2.36  |
| 4       | 0     | -4.60  |
| 5       | +3.94 | -2.36  |
| 6       | +3.33 | +1.96  |
| 7       | 0     | +4.72  |
| 8       | -1.65 | +8.20  |
| 9       | -4.85 | +6.05  |
| 10      | -7.59 | +1.96  |
| 11      | -7.80 | -2.62  |
| 12      | -4.42 | -6.60  |
| 13      | 0     | -8.48  |
| 14      | +4.42 | -6.60  |
| 15      | +7.80 | -2.62  |
| 16      | +7.59 | +1.96  |
| 17      | +4.85 | +6.05  |
| 18      | +1.65 | +8.20  |
| 19      | 0     | +11.53 |
| 20      | -3.38 | +11.02 |

| Contact | X      | y      |
|---------|--------|--------|
| 21      | -6.48  | +9.55  |
| 22      | -8.99  | +7.21  |
| 23      | -10.72 | +4.27  |
| 24      | -11.51 | +0.89  |
| 25      | -11.23 | -2.62  |
| 26      | -9.96  | -5.82  |
| 27      | -7.80  | -8.48  |
| 28      | -5.00  | -10.44 |
| 29      | -1.70  | -11.40 |
| 30      | +1.70  | -11.40 |
| 31      | +5.00  | -10.44 |
| 32      | +7.80  | -8.48  |
| 33      | +9.96  | -5.82  |
| 34      | +11.23 | -2.62  |
| 35      | +11.51 | +0.89  |
| 36      | +10.72 | +4.27  |
| 37      | +8.99  | +7.21  |
| 38      | +6.48  | +9.55  |
| 39      | +3.38  | +11.02 |

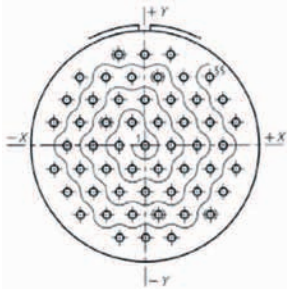
# 853 Series

## Common Section



22

55



| Contact | X     | y     |
|---------|-------|-------|
| 1       | 0     | 0     |
| 2       | -1.65 | +2.87 |
| 3       | -3.30 | 0     |
| 4       | -1.65 | -2.87 |
| 5       | +1.65 | -2.87 |
| 6       | +3.30 | 0     |
| 7       | +1.65 | +2.87 |
| 8       | 0     | +5.74 |
| 9       | -3.30 | +5.74 |
| 10      | -4.95 | +2.87 |
| 11      | -6.60 | 0     |
| 12      | -4.95 | -2.87 |
| 13      | -3.30 | -5.74 |
| 14      | 0     | -5.74 |

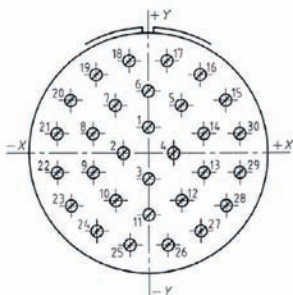
| Contact | X     | y     |
|---------|-------|-------|
| 15      | +3.30 | -5.74 |
| 16      | +4.95 | -2.87 |
| 17      | +6.60 | 0     |
| 18      | +4.95 | +2.87 |
| 19      | +3.30 | +5.74 |
| 20      | +1.65 | +8.61 |
| 21      | -1.65 | +8.61 |
| 22      | -4.95 | +8.61 |
| 23      | -6.60 | +5.74 |
| 24      | -8.26 | +2.87 |
| 25      | -9.91 | 0     |
| 26      | -8.26 | -2.87 |
| 27      | -6.60 | -5.74 |
| 28      | -4.95 | -8.61 |

| Contact | X     | y      |
|---------|-------|--------|
| 29      | -1.65 | -8.61  |
| 30      | +1.65 | -8.61  |
| 31      | +4.95 | -8.61  |
| 32      | +6.60 | -5.74  |
| 33      | +8.26 | -2.87  |
| 34      | +9.91 | 0      |
| 35      | +8.26 | +2.87  |
| 36      | +6.60 | +5.74  |
| 37      | +4.95 | +8.61  |
| 38      | +3.30 | +11.48 |
| 39      | 0     | +11.48 |
| 40      | -3.30 | +11.48 |
| 41      | -8.26 | +8.61  |
| 42      | -9.91 | +5.74  |

| Contact | X      | y      |
|---------|--------|--------|
| 43      | -11.56 | +2.87  |
| 44      | -11.56 | -2.87  |
| 45      | -9.91  | -5.74  |
| 46      | -8.26  | -8.61  |
| 47      | -3.30  | -11.48 |
| 48      | 0      | -11.48 |
| 49      | +3.30  | -11.48 |
| 50      | +8.26  | -8.61  |
| 51      | +9.91  | -5.74  |
| 52      | +11.56 | -2.87  |
| 53      | +11.56 | +2.87  |
| 54      | +9.91  | +5.74  |
| 55      | +8.26  | +8.61  |

24

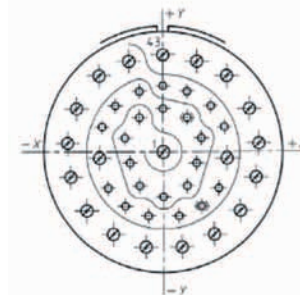
30



| Contact | X      | y     |
|---------|--------|-------|
| 1       | 0      | +3.39 |
| 2       | -3.37  | 0     |
| 3       | 0      | -3.39 |
| 4       | +3.37  | 0     |
| 5       | +4.42  | +6.30 |
| 6       | 0      | +8.20 |
| 7       | -4.42  | +6.30 |
| 8       | -7.43  | +2.54 |
| 9       | -7.43  | -2.54 |
| 10      | -4.42  | -6.30 |
| 11      | 0      | -8.20 |
| 12      | +4.42  | -6.30 |
| 13      | +7.43  | -2.54 |
| 14      | +7.43  | +2.54 |
| 15      | +10.39 | +6.98 |

| Contact | X      | y      |
|---------|--------|--------|
| 16      | +6.98  | +10.39 |
| 17      | +2.54  | +12.25 |
| 18      | -2.54  | +12.25 |
| 19      | -6.98  | +10.39 |
| 20      | -10.39 | +6.98  |
| 21      | -12.25 | +2.54  |
| 22      | -12.25 | -2.54  |
| 23      | -10.39 | -6.98  |
| 24      | -6.98  | -10.39 |
| 25      | -2.54  | -12.25 |
| 26      | +2.54  | -12.25 |
| 27      | +6.98  | -10.39 |
| 28      | +10.39 | -6.98  |
| 29      | +12.25 | -2.54  |
| 30      | +12.25 | +2.54  |

43



| Contact | X     | y     |
|---------|-------|-------|
| 1       | 0     | 0     |
| 2       | -3.20 | +4.50 |
| 3       | -5.13 | +1.80 |
| 4       | -4.47 | -1.42 |
| 5       | -3.20 | -4.47 |
| 6       | 0     | -5.92 |
| 7       | +3.20 | -4.47 |
| 8       | +4.47 | -1.42 |
| 9       | +5.13 | +1.80 |
| 10      | +3.20 | +4.50 |
| 11      | 0     | +5.46 |
| 12      | -3.20 | +8.00 |
| 13      | -6.40 | +6.07 |
| 14      | -8.20 | +3.30 |
| 15      | -8.56 | -0.79 |

| Contact | X      | y      |
|---------|--------|--------|
| 16      | -7.42  | -4.78  |
| 17      | -5.13  | -7.16  |
| 18      | -2.06  | -8.48  |
| 19      | +2.06  | -8.48  |
| 20      | +5.13  | -7.16  |
| 21      | +7.42  | -4.78  |
| 22      | +8.56  | -0.79  |
| 23      | +8.20  | +3.30  |
| 24      | -6.40  | +6.07  |
| 25      | +3.20  | +8.00  |
| 26      | 0      | +8.76  |
| 27      | -4.57  | +12.01 |
| 28      | -8.56  | +9.63  |
| 29      | -11.58 | +5.69  |

| Contact | X      | y      |
|---------|--------|--------|
| 30      | -12.83 | +1.12  |
| 31      | -12.42 | -3.51  |
| 32      | -10.29 | -7.77  |
| 33      | -6.78  | -10.92 |
| 34      | -2.42  | -12.62 |
| 35      | +2.42  | -12.62 |
| 36      | +6.78  | -10.92 |
| 37      | +10.29 | -7.77  |
| 38      | +12.42 | -3.51  |
| 39      | +12.83 | +1.12  |
| 40      | +11.58 | +5.69  |
| 41      | +8.56  | +9.63  |
| 42      | +4.57  | +12.01 |
| 43      | 0      | +12.88 |



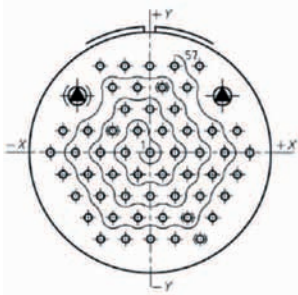
# 853 Series

## Common Section



24

57



| Contact | X | Y |
|---------|---|---|
| 1       | 0 | 0 |

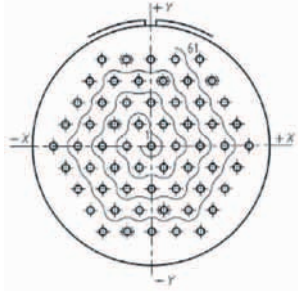
| Contact | X     | Y     |
|---------|-------|-------|
| 2       | -1.65 | +2.87 |
| 3       | -3.30 | 0     |
| 4       | -1.65 | -2.87 |
| 5       | +1.65 | -2.87 |
| 6       | +3.30 | 0     |
| 7       | +1.65 | +2.87 |
| 8       | 0     | +5.74 |
| 9       | -3.30 | +5.74 |
| 10      | -4.95 | +2.87 |
| 11      | -6.60 | 0     |
| 12      | -4.95 | -2.87 |
| 13      | -3.30 | -5.74 |
| 14      | 0     | -5.74 |
| 15      | +3.30 | -5.74 |

| Contact | X     | Y     |
|---------|-------|-------|
| 16      | +4.95 | -2.87 |
| 17      | +6.60 | 0     |
| 18      | +4.95 | +2.87 |
| 19      | +3.30 | +5.74 |
| 20      | +1.65 | +8.61 |
| 21      | -1.65 | +8.61 |
| 22      | -4.95 | +8.61 |
| 23      | -8.26 | +2.87 |
| 24      | -9.91 | 0     |
| 25      | -8.26 | -2.87 |
| 26      | -6.60 | -5.74 |
| 27      | -4.95 | -8.61 |
| 28      | -1.65 | -8.61 |
| 29      | +1.65 | -8.61 |

| Contact | X      | Y      |
|---------|--------|--------|
| 30      | +4.95  | -8.61  |
| 31      | +6.60  | -5.74  |
| 32      | +8.26  | -2.87  |
| 33      | +9.91  | 0      |
| 34      | +8.26  | +2.87  |
| 35      | +4.95  | +8.61  |
| 36      | +3.30  | +11.48 |
| 37      | 0      | +11.48 |
| 38      | -3.30  | +11.48 |
| 39      | -6.60  | +11.48 |
| 40      | -9.63  | +7.47  |
| 41      | -11.56 | +2.87  |
| 42      | -13.21 | 0      |
| 43      | -11.56 | -2.87  |

| Contact | X      | Y      |
|---------|--------|--------|
| 44      | -9.91  | -5.74  |
| 45      | -8.26  | -8.61  |
| 46      | -6.60  | -11.48 |
| 47      | -3.30  | -11.48 |
| 48      | 0      | -11.48 |
| 49      | +3.30  | -11.48 |
| 50      | +6.60  | -11.48 |
| 51      | +8.26  | -8.61  |
| 52      | +9.91  | -5.74  |
| 53      | +11.56 | -2.87  |
| 54      | +13.21 | 0      |
| 55      | +11.56 | +2.87  |
| 56      | +9.63  | +7.47  |
| 57      | +6.60  | +11.48 |

61



| Contact | X | Y |
|---------|---|---|
| 1       | 0 | 0 |

| Contact | X     | Y     |
|---------|-------|-------|
| 2       | -1.65 | +2.87 |
| 3       | -3.30 | 0     |
| 4       | -1.65 | -2.87 |
| 5       | +1.65 | -2.87 |
| 6       | +3.30 | 0     |
| 7       | +1.65 | +2.87 |
| 8       | 0     | +5.74 |
| 9       | -3.30 | +5.74 |
| 10      | -4.95 | +2.87 |
| 11      | -6.60 | 0     |
| 12      | -4.95 | -2.87 |
| 13      | -3.30 | -5.74 |
| 14      | 0     | -5.74 |
| 15      | +3.30 | -5.74 |
| 16      | +4.95 | -2.87 |

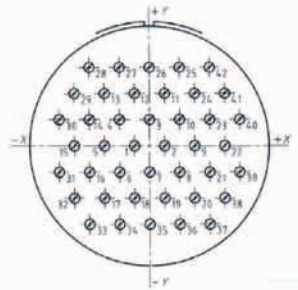
| Contact | X     | Y     |
|---------|-------|-------|
| 17      | +6.60 | 0     |
| 18      | +4.95 | +2.87 |
| 19      | +3.30 | +5.74 |
| 20      | +1.65 | +8.61 |
| 21      | -1.65 | +8.61 |
| 22      | -4.95 | +8.61 |
| 23      | +6.60 | +5.74 |
| 24      | -8.26 | +2.87 |
| 25      | -9.91 | 0     |
| 26      | -8.26 | -2.87 |
| 27      | -6.60 | -5.74 |
| 28      | -4.95 | -8.61 |
| 29      | -1.65 | -8.61 |
| 30      | +1.65 | -8.61 |
| 31      | +4.95 | -8.61 |

| Contact | X      | Y      |
|---------|--------|--------|
| 32      | +6.60  | -5.74  |
| 33      | +8.26  | -2.87  |
| 34      | +9.91  | 0      |
| 35      | +8.26  | +2.87  |
| 36      | +6.60  | +5.74  |
| 37      | +4.95  | +8.61  |
| 38      | +3.30  | +11.48 |
| 39      | 0      | +11.48 |
| 40      | -3.30  | +11.48 |
| 41      | -6.60  | +11.48 |
| 42      | -8.26  | +8.61  |
| 43      | -9.91  | +5.74  |
| 44      | -11.56 | +2.87  |
| 45      | -13.21 | 0      |
| 46      | -11.56 | -2.87  |

| Contact | X      | Y      |
|---------|--------|--------|
| 47      | -9.91  | -5.74  |
| 48      | -8.26  | -8.61  |
| 49      | -6.60  | -11.48 |
| 50      | -3.30  | -11.48 |
| 51      | 0      | -11.48 |
| 52      | +3.30  | -11.48 |
| 53      | +6.60  | -11.48 |
| 54      | +8.26  | -8.61  |
| 55      | +9.91  | -5.74  |
| 56      | +11.56 | -2.87  |
| 57      | +13.21 | 0      |
| 58      | +11.56 | +2.87  |
| 59      | +9.91  | +5.74  |
| 60      | +8.26  | +8.61  |
| 61      | +6.60  | +11.48 |

28

42



| Contact | X     | Y      |
|---------|-------|--------|
| 1       | -2.39 | 0      |
| 2       | +2.39 | 0      |
| 3       | 0     | +4.135 |
| 4       | -4.77 | +4.135 |
| 5       | -7.16 | 0      |
| 6       | -4.77 | -4.135 |
| 7       | 0     | -4.135 |
| 8       | +4.77 | -4.135 |
| 9       | +7.16 | 0      |
| 10      | +4.77 | +4.135 |
| 11      | +2.39 | +8.270 |

| Contact | X      | Y      |
|---------|--------|--------|
| 12      | -2.39  | +8.270 |
| 13      | -7.16  | +8.270 |
| 14      | -9.55  | +4.135 |
| 15      | -11.94 | 0      |
| 16      | -9.55  | -4.135 |
| 17      | -7.16  | -8.270 |
| 18      | -2.39  | -8.270 |
| 19      | +2.39  | -8.270 |
| 20      | +7.16  | -8.270 |
| 21      | +9.55  | -4.135 |
| 22      | +11.94 | 0      |

| Contact | X      | Y       |
|---------|--------|---------|
| 23      | +9.55  | +4.135  |
| 24      | +7.16  | +8.270  |
| 25      | +4.77  | +12.405 |
| 26      | 0      | +12.405 |
| 27      | -4.77  | +12.405 |
| 28      | -9.55  | +12.405 |
| 29      | -11.94 | +8.270  |
| 30      | -14.32 | +4.135  |
| 31      | -14.32 | -4.135  |
| 32      | -11.94 | -8.270  |

| Contact | X      | Y       |
|---------|--------|---------|
| 33      | -9.55  | -12.405 |
| 34      | -4.77  | -12.405 |
| 35      | 0      | -12.405 |
| 36      | +4.77  | -12.405 |
| 37      | +9.55  | -12.405 |
| 38      | +11.94 | -8.270  |
| 39      | +14.32 | -4.135  |
| 40      | +14.32 | +4.135  |
| 41      | +11.94 | +8.270  |
| 42      | +9.55  | +12.405 |







853 Series

EN2997/ESC Qualified - Fire Wall Connectors

# Range Extension

|                                                     |    |
|-----------------------------------------------------|----|
| ■ 230V connector .....                              | 64 |
| ■ Filtered connectors .....                         | 64 |
| ■ Power contacts for PCB .....                      | 65 |
| ■ Hermetic connector with removeable contacts ..... | 65 |

# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors



### Products Range Extension

#### 230V connector

The use of higher voltage to reduce cable weight has lead to the development of double voltage in un-pressurized connectors.

**Robust design and materials:**

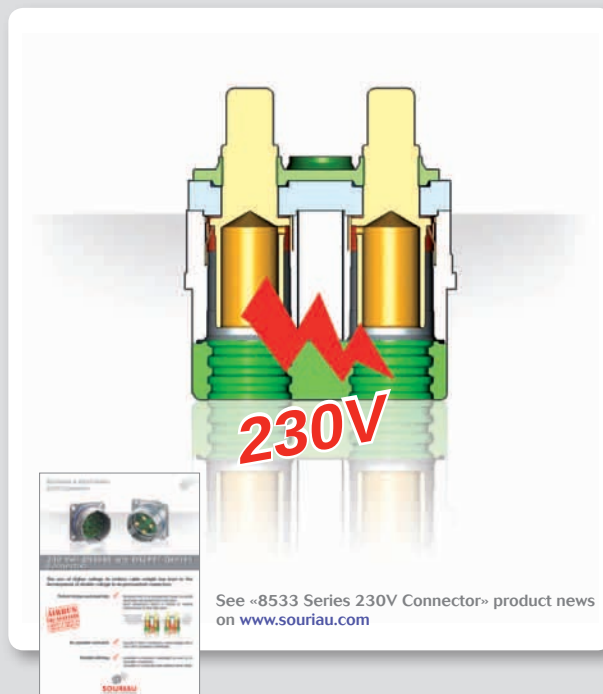
- . ensuring that in un-pressurized areas no partial discharge will weaken the connector.
- . each production batch is tested to ensure performance to this high level.

**No possible mismatch:**

- . specific T and V clocking to avoid mating with a non 230V qualified counterpart.

**Flexible offering:**

- . available in standard watertight as well as in hermetic connectors.
- . available in composite and stainless steel shells.



See «8533 Series 230V Connector» product news on [www.souriau.com](http://www.souriau.com)

#### Filtered connectors

Protection of sensitive electronic components inside the equipment against any EMI or lightning interference as well as protection of signal integrity.

**Signal Integrity principles - EMI/RFI Filter:**

- . Protection of sensitive electronic components inside equipment.
- . Signal integrity (incoming data noise free / prevents noise exiting the equipment).

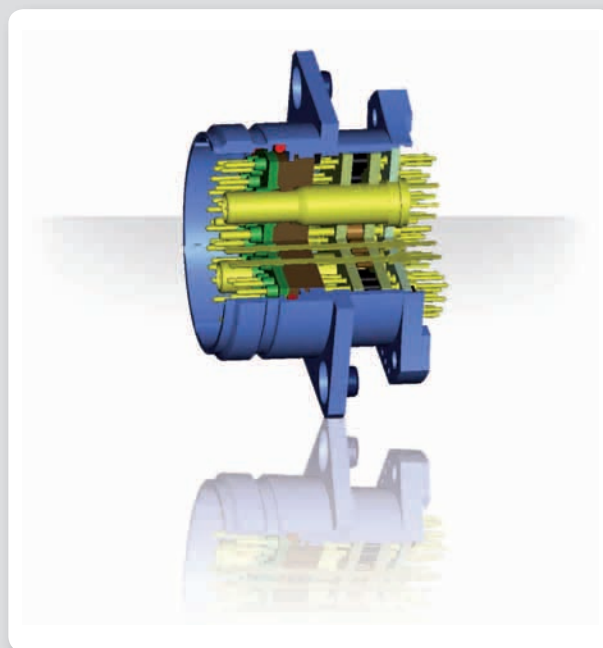
**Space/weight/time saving:**

- . Less electronics inside the equipment.
- . Filtered receptacle are generally standard length.

**Excellent performances/reliability adapted to Mil-aero environments:**

- . Insertion loss (attenuation) to -80dB at critical frequencies.
- . Filter ideally positioned at system entry point.
- . Tested as per MIL-STD-220.

**A complete solution:** Optional TVS functionality, Hermetic version available, 100 % ITAR free solution if required.



# 853 Series

## EN2997/ESC Qualified - Fire Wall Connectors



### Products Range Extension

#### Power Contacts for PCB

**Firewall connector for power supply, adapted to PCB solutions.**

**Safe & Quick Avoid soldering of contacts:**

- . No heat applied: no risk of damaging the connector.
- . Quicker fit in the equipment.

**Robust:**

- . True mechanical link between PCB and contacts: no additional double flange needed. Power contacts are attached directly to the board with screws for an optimized connection.
- . Available in size 6 contact (Ø4.6mm) & size 4 contact (Ø5.74mm).

**Compact:**

- . Tapped contacts for direct and small sized connections, especially compared to standard lugs.



See «EN2997 Series Power Contacts for PCB» product news on [www.souriau.com](http://www.souriau.com)

#### Hermetic Connector with Removeable Contacts

**Extension of the fuel immersion range**

**High hermeticity performance:**

- . Glass to metal sealing: leakage of less than  $10^{-9}$  atm.cm<sup>3</sup>/s.

**Removeable crimp contacts:**

- . A technology combining crimp contacts with glass beads
- . RoHS: no lead used.
- . Long lifetime: superior to solder cup contacts in kerosene immersion.
- . Easy MRO: contact replacement.

**Long term fuel immersion materials:**

- . Performances guaranteed for minimum 90,000 hours in fuel immersion.

**Wide Availability:**

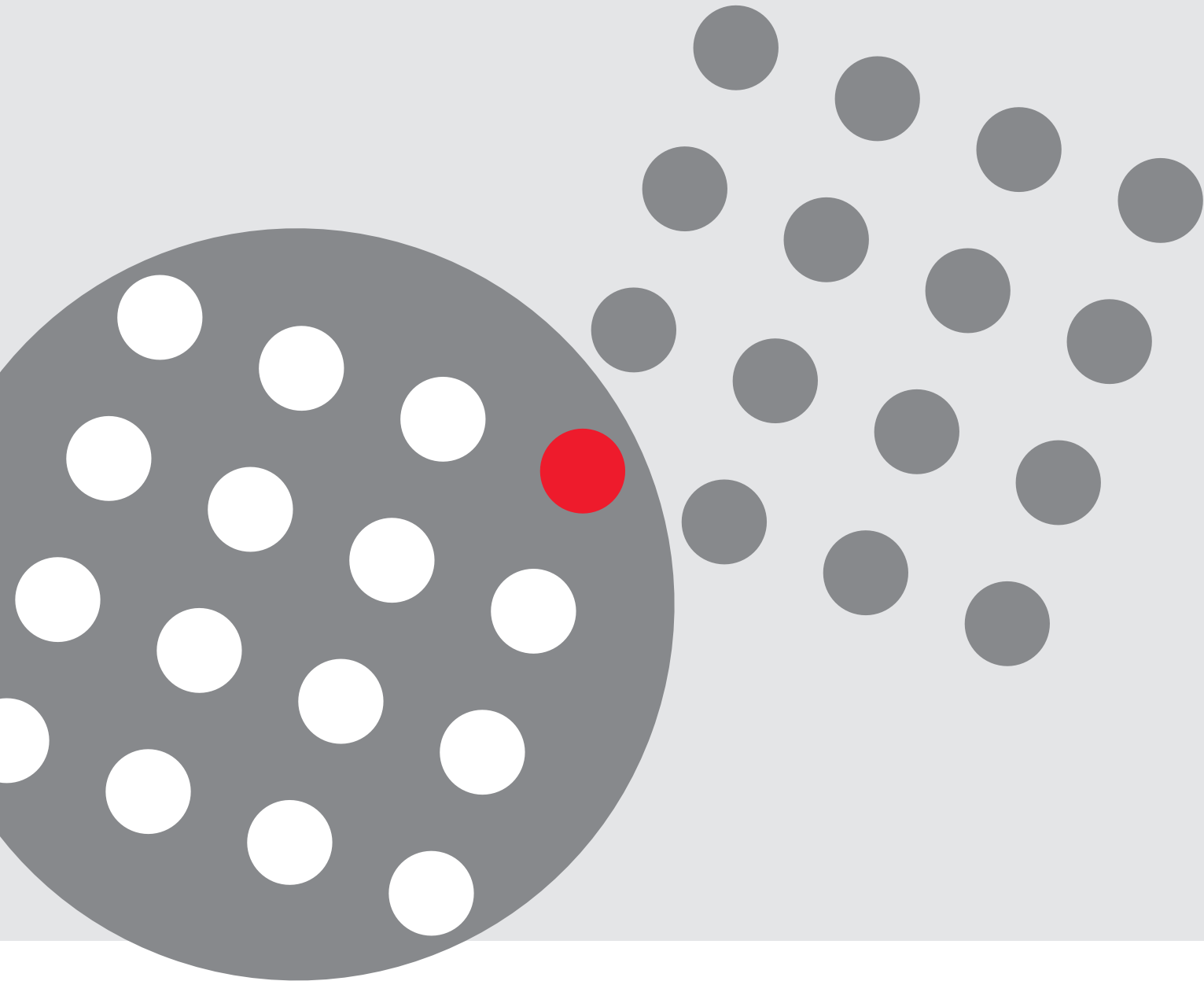
- . EN3646 (Airbus Qualified Products).
- . EN2997, EN3645, MIL-DTL-38999.



See «MIL-DTL-38999, EN3646, EN2997 Fuel Tank Connector» product news on [www.souriau.com](http://www.souriau.com)







# **SOURIAU**

[www.souriau.com](http://www.souriau.com)

[contactmilaero@souriau.com](mailto:contactmilaero@souriau.com)

**Esterline**  
Connection Technologies



**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331